University News

- Interaction Between Teaching and Research
- Central Evaluation
- Computer Link-up for IITs
- Inter-University Youth Festivals
- PhD in Stenography
- Computerised Library

A scheme of low priced textbooks
for students made available with
British Government assistance.

ELBS

NEW ELBS TITLES IN PHYSICS

1. **QUANTUM MECHANICS**—P.C.W. DAVIES
Routledge 1984 ELBS £1.50

This book provides a concise, readable introduction for science graduates with no previous knowledge of the quantum theory and will be useful for them upto final year level.

2. **THE STRUCTURE OF PHYSICS**—G.R. NOAKES
Macmillan 1977 ELBS £2,95

The author's aim is to help students to understand the ideas and concepts underlying the subject and stimulate their interest in modern developments.

3. **THREE PHASES OF MATTER 2nd ed**—A.J. WALTON,
OUP 1983 ELBS £3.95

This text for undergraduates shows how the main structural and transport properties of solids, liquids and gases can be explained from an atomic viewpoint. The chapters on gases have been rewritten in the second edition. Other new topics include fluctuation phenomena, semiconductors and liquid crystals.

Available at all leading bookshops. For further information contact

British High Commission
British Council Division
AIFACS Building, Rafi Marg, New Delhi-110 001

Also at :

Mittal Tower "C" Wing
Nariman Point, Bombay 400 021

5, Shakespeare Sarani
Calcutta-700 071

737, Anna Salai
Madras 600 002

UNIVERSITY NEWS

VOL. XXIV
No. 24
Price

JUNE 23
1986
Re. 1.00

A Weekly Chronicle of Higher Education published by the Association of Indian Universities

IN THIS ISSUE

Interaction Between Teaching and Research

Central Evaluation in Panjab University 6

Convocation

University of Calcutta, Calcutta 11

News from Universities

Computer Link-up for IITs 15

Sanskrit University at Kalady 15

Ph.D. in Stenography 15

Agriculture

Massive Training in Scientific Sericulture 19

Seed Treatment for Drought Tolerance 20

National Centre for Weed Research 20

News from UGC

Nominations for Fellowships in FRG 21

News from Abroa

A Computerised Library 21

Theses of the Month 23

Current Documentation in Education 24

Classified Advertisements 26

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

Interaction Between Teaching and Research

J.N. Kapur*

ORGANISATIONS FOR TEACHING AND RESEARCH

There are three types of academic organisations:

(i) **Purely Research Organisations** where the main function of an academic member is to do research and no teaching is expected of him. Such organisations in India include the various laboratories of the Council of Scientific and Industrial Research, the various laboratories and units of the Defence Research and Development organisation, the various units of the Indian Space Research Organisation, the Bhaba Atomic Research Centre, the Physical Research Laboratory, the Tata Institute of Fundamental Research, the Institute of Mathematical Sciences, the Institute of Development Studies and so on. Such organisations may arrange some short-term courses for their own new recruits and for others, but ninety-nine per cent of their activity is concerned with research, pure or applied.

(ii) **Research-cum-Teaching Organisations** where the functions of every faculty member include explicitly both teaching and research. These include universities, IITs, IIMs, deemed universities, Institutes of National Importance etc. Every faculty member has to do teaching for six to fifteen hours a week and is expected to devote one-fourth to one-half of his time to research. However if a faculty member does no research, it is seldom that he is charged with dereliction of duty. Though every faculty member is expected to do research, how much research he does is left to him. If he does no research, the utmost that can be done is not to promote him. However in good institutions, there is sufficient peer-opinions pressure and a sufficiently invigorating climate of research to encurage most faculty members to pursue research. Thus in most U.S. universities, teachers get their summer-month salaries from research grants which are given to only those individuals who are active in research. In many universities in Canada, Australia etc., research grants provide incentives by providing facilities for travel, photo-copying etc. In fact institutions in these countries are very often graded by the proportion of active research workers among their faculty members, by the number of nationally and internationally known researchers with them, by the number of Ph.Ds produced, by the quality and volume of research output, by the amount of research grants its faculty members can obtain from various research funding agencies and so on.

(iii) **Purely Teaching Organisations** where every faculty member has to do teaching, but is not explicitly expected to do research. These include all schools, degree and postgraduate colleges. In the last two categories, research is considered as a desirable activity and in many cases, research is actively supported. The University Grants Commission has a number of schemes to finance research by college teachers.

**Indian Institute of Technology, Kanpur.*

In this article, we shall be concerned mainly with organisations of type (ii) and also to some extent with organisations of type (iii).

In many cases, there is an exchange of members between organisation of type (i) and (ii). Faculty members from universities visit research institutes during their sabbatical leave periods to devote their full time to research. Similarly some academicians from research institutions visit universities to give courses of lectures and come into direct contact with research workers in the universities. Such exchanges are always useful and need to be encouraged.

The UGC Fellowship Scheme

Even in undergraduate and postgraduate colleges where in general a teacher is not expected to do or guide research, research is still considered a very desirable activity. In faculty recruitments, a Ph.D. is preferred to a non-Ph.D. and a Ph.D. who is active in research is preferred to a Ph.D. who has stopped doing research.

When some years ago, the UGC thought of a Faculty Improvement Programme for improving teaching in undergraduate and postgraduate colleges, it appointed an Advisory Committee of which I had the privilege of being a member. I suggested that these teachers should be given indepth training in the present B.Sc. and M.Sc. level courses since many of them had done their M.Scs some years earlier when courses were different and a number of them were not able to teach the new courses effectively. In fact many had not acquired sufficient depth of understanding even in the courses they had done. Some were even teaching wrong concepts. I suggested that every teacher should be given special indepth training in two undergraduate courses and one or two postgraduate level courses where they should read a large number of textbooks, do some non-routine problems, do some project in these areas, study the history of topics in these courses, even study the lives of those who created these fields and so on. They should also be given training in pedagogic techniques and in the optimum use of new audio-visual teaching aids and all of them should be exposes to a courses in history, culture, excitement and relevance of the disciplines they are teaching.

The alternative proposal was that these teachers should be enabled to obtain the normal Ph.D. degrees. Almost all other members of the UGC committee supported this second proposal and my proposal was overruled.

The arguments in favour of the second proposal were:

(i) A Ph.D. should be a better teacher than a non-Ph.D.

(ii) A Ph.D. should be able to acquire the in-depth training himself.

(iii) A Ph.D. should be more excited about new knowledge and as such should be able to excite his students about learning.

(iv) Most university professors can guide Ph.D. students, but cannot give the type of courses I had envisaged. The teaching and development of such courses would require special efforts which professors may not be prepared to put in.

(v) Most university professors would gladly accept the responsibility of guiding additional Ph.D. students, because the students would increase the strengths of their research groups, would give them credit for guiding additional Ph.Ds and they may also get additional joint research papers.

(iv) There were not sufficient incentives for university professors to develop courses for improving teaching, since all the rewards were in the field of research.

The UGC spent about Rs. 50,000 per teacher and it certainly led to an increase in the number of Ph.D.s in colleges. It also led to increased output of research from universities, but did this scheme produce significantly better teachers for our students? This question can only be answered by the teachers themselves or by their past and present students. It is however known that some of these teachers later went to university departments with better research facilities and some of them became frustrated teachers because they had no chance for teaching courses in their specialised areas of research in colleges and had no research facilities. In most cases, the areas in which they did research did not have much to do with the subjects they were teaching.

Some of these teachers continued to do research, but many teachers stopped doing research, because they did not have access to research libraries and research laboratories and no facilities for discussions with scientists or for attending conferences etc.

In some cases, there was marginal improvements in teaching, but was this worth all the time and money spent? However no scientific evaluation of the scheme has been done. The alternative proposal was not even tried and as such the question of whether it would have been more successful does not arise.

We have discussed this scheme in detail, because the basic philosophy of this scheme was that research automatically improves teaching and research is one of the main functions of the university system. Every activity that encourages research activity should be encouraged. However good teaching for young students is also an important objective of university education. As such interaction between teaching and research deserves to be studied carefully.

Influence of Teaching on Research

It is almost universally accepted that research improves teaching since research leads to wider horizons, wider knowledge, improved ability to write systematically, innovative habit of thinking and so on. Without research, one may do routine teaching very well, but one cannot be original, innovative and creative.

Research also gives one the confidence that one can read and absorb new knowledge oneself and a research worker can pass this confidence on to his students.

Most of these arguments are very plausible, but are they true in all cases ? If these are not always true, under what conditions will these be true?

Most researchers these days work in very narrow specialised areas of research. They read research papers in these narrow areas. For the rest of their discipline, they may be as ignorant or as knowledgeable as others. This certainly applies to most research workers with limited facilities. It is true that some researchers are very widely read, but it is also true that some non-researchers are also widely read.

It is however true that researchers have greater incentives to read widely than non-researchers because they hope to convert their new knowledge into research papers.

A faculty member reads new books, expository articles and research papers for one or more of the following reasons:

(i) he may be interested in increasing his own knowledge, he may want to widen his horizons—or he may simply be in love with knowledge for its own sake;

(ii) he may like to teach new courses or he may have to teach new courses;

(iii) he may like to write textbooks or expository books and expository articles;

(iv) he may give lectures at conferences and symposia; and

(v) he may want to know what is going on in his own field of specialisation, so that he may write research papers, present these at conferences and publish them for the sake of appreciation by colleagues or for the sake of promotion etc.

For the research worker, there is a definite motivation for study and he has also a definite area of study. The same applies for those writing textbooks or teaching new courses. They are like explorers, exploring a definite region with a definite goal. Others may be like explorers who do the exploring, but are not sure what they are looking for.

Many research workers do not fully understand even the narrow area they are working in. They simply modify and improve the results obtained by others. In experimental work, they take new observations on new materials, but they use well-known techiniques. They do not walk exactly along paths which are well trodden, but they walk along paths which are almost indistinguishable from the well-trodden paths.

There are others who do deeper research, but deeper research also implies deeper involvement. The time for this deep involvement may come out of the time needed for good teaching.

We need individuals who are equally deeply involved in both teaching and research and who will not allow one activity to benefit at the cost of the other. These are individuals who have brought out a proper balance between their teaching and research

Society and a Proper Balance Between Teaching and Research

There are exceptional individuals who love teaching, for whom good teaching is its own reward, who care for the love and affection of their students and who take all pains to give their best to the students. There are other exceptional individuals who love research and for them excellent research is its own reward. They continue to do good research independently of any consideration of rewards and honours.

For most individuals however, the attitude of Society to teaching and research is an important factor. Society may just want teachers to teach a certain number of periods per week and may not worry about the quality of teaching. At times, society may not worry even about the number of periods the students are taught, but may only show interest in the students getting paper degrees qualifying them for some jobs. The Society can however insist on good teaching. Society may like to recognize good teaching by distinguished teacher awards. It may allow students to conduct students reaction surveys and even publish the results of these surveys. It may give recognition to good and dedicated teaching in its promotion policy

Alternatively all rewards may be reserved for research, all promotions may be made on the basis of research publications only, all honours may be given to research workers and the teaching activity and dedication to teaching may not be considered at all at the time of promotion or rewards.

Even in research, Society may just go by the number of papers or it may go by the quality of research or by the impact it has produced. Usually quality of teaching and quality of research are not given sufficient importance, not because they are not considered important, but because they cannot be measured easily. On the other hand quantity of research can be measured easily and as such it receives the greatest importance.

If quality of teaching and quality of research are considered sufficiently important, then we must devise ways to measure these as objectively and as correctly as possible. There are certainly difficulties in the process, but these can be overcome. One major difficulty arises due to the opposition of those who are mediocre teachers and mediocre research workers and who are afraid that any efforts to measure these will either expose them or force them to work harder.

Quality of teaching can be measured by the opinions of past and present students, by the opinions of peers, by the opinions of specialists who may sit in the classes, by the innovation, originality and creativity in the classes, by the new courses developed, by the products produced by the teacher, by the attitude to learning displayed by students, by the use of teaching aids, by the quality of notes given. by the assignments and examination tests given by the availability of teachers to the students and so on.

Quality of research work can be measured by the Journals in which papers are published, by references in books and papers, by citation of work, by the number of new ideas and new techniques developed, by the opinions of the experts in the field and so on.

For good quality teaching and good quality research, Society as a whole, and in particular the academic community and the funding agencies must be continuously aware of the need of quality. If every student, teacher, parent, educational administrator and politician insists on quality in education and research, we shall get quality education.

Research at School and Undergraduate Levels

Real interaction between teaching and research can take place when all teaching is permeated by research attitude i.e. when the scope of the word 'research' is widened to include all creative activities of discovery type by students and teachers at all levels. This implies that discovery approach, guided-discovery approach, freedom-to learn approach and project-method approach should all become integral techniques of teaching.

Research usually means finding facts not known to anyone before. Many times facts are rediscovered. Rediscovery may not get as much credit as the first discoveren, but credit or no credit, rediscoverer has done as much research as the original researcher. In learning process, rediscovery is very important.

Children should learn mathematics by discovering patterns in numbers and in geometrical figures, should learn social studies by discovering patterns in their social environment and should learn science by observing patterns in carefully designed simple experiments.

The research that the teacher has to do is in contriving of situations and observations and designing of experiments to facilitate discovery of patterns. There is great scope of research here.

Even at the undergraduate level, a great deal of learning can take place through students research. Teachers have to do research first in designing situations for facilitating students research. It is very easy to give lectures based on text-books, it is much more difficult to design open-ended situations—the exploring of which—will lead to better students learning and research. This can however be done by creative teachers.

Research is usually meant to cover investigations at the frontiers of knowledge. Research for teaching means research in the interior of the land of knowledge. Some times these investigations have to be far in the interior. It is presumed that since we have reached the frontiers, every thing in the interior is hundred per cent known. This is not true. In Mathematics, there are thousands of patterns in algebra, geometry, calculus and newer applications of these areas where investigation can be rewarding. In science, hundreds of experiments can be done of which the results are not known in advance. Research here means designing chains of open-ended situations so that the investigation of one situation may lead to another in an almost never ending process and by the time the student progresses far enough, he may have rediscovered a lot of things for himself.

Students' Research

At any stage we have to ask ourselves : Given the knowledge of the students, what new investigations the students can make ? We have to design situations whose investigations will automatically lead him to the next stage. Even if he cannot investigate the situations himself alone, he may do so as a member of a team. At best he should be able to ask questions, his curiosity may be aroused and with a little help, he should be able to go to next open-ended situation.

Even if the student does not advance further, he gains in depth of understanding, he gains in confidence in his own power to investigate.

The real interaction between teaching and research takes place when students and teachers become joint investigators in projects of which the answers are not known to the teachers, but which do no require any knowledge beyond the knowledge which the students have, but which have a possibility of raising new and challenging questions for both the students and the teachers.

A real researcher at the frontier should be able to use his skills in investigations in the interior also and should thus be a better teacher in creative teaching. A routine drill-type researcher at the frontiers may fail here because this effort requires great ingenuity. On the other hand, a non-researcher at the frontiers may be able to prove his worth at this level.

We require creative-teacher-scholars who can do research at all levels and we want them to produce students who can do research at all levels.

Interaction with the Examination System

The present external examination system gives no scope for creative teaching or creative learning. It caters to rote learning, memorising and recall. It does not even emphasize understanding. *It is anti-academic.* It is for this reason that research and teaching have become completely isolated from each other in most institutions in our country. The possibility of the harmonious productive co-existence of teaching and research exists only in institutions with internal evaluation system. A good research atmosphere can be conducive to good teaching mainly in internal evaluation system.

It is only under these conditions that we can have individuals for whom teaching is itself a research activity. Such persons refuse to teach from old notes, they want to teach something new everyday and even if they have to teach old topics, they want to teach them every time in a new way. For such persons, there is no dichotomy between teaching and research.

For such persons there are two laboratories. One of these is the research laboratory where they do their theoretical or experimental research. The other is the classroom laboratory where they do their teaching research and the teaching research includes both pedagogical and content research.

Both researches require same degree of creativity, originality and research aptitute. The main difference lies in the recognition that society gives to these two types of activities. One type of research is publishable, recognizable, measurable and has prestige. The other type may sometimes be publishable, but usually is not. It is recognized by the students who are interested in genuine learning. The second type of research is even frowned upon in a society dominated by external examination system.

For the thriving of the educational process, the educational process has to be changed to encourage creative innovative classroom research. This joint research by students and teachers is the heart of the educational process. The failure of our educational system can be ascribed partly to the absence of this important element. □

UNIVERSITY NEWS

A Weekly Chronicle of Higher Education

Subscription Rates

	Inland	Foreign	
		Airmail	Surfacemail
	Rs.	£	£
1 Year	40.00	21.00	11.00
2 Years	72.00	40.00	20.00
3 Years	100.00	55.00	26.00
5 Years	150.00	—	—

[Teachers and Students in India Rs. 30.00 per year]

Subscription is payable in advance by Bank Draft only in favour of Secretary, Association of Indian Universities.

Advertisement tariff available on request.

Address Subscriptions & Enquiries to :

Sales & Publication Officer
Association of Indian Universities
AIU House, 16 Kotla Marg
New Delhi 110002

Central Evaluation in Panjab University

The 1984 Experiment

D.P. Verma* and O.P Lal

It was only in July 1984, that it was possible for the University to announce its decision to hold the examinations, much-delayed because of the disturbed conditions in the State. With adequate assistance provided by the State machinery and military authorities, the examinations commenced on 23 July 1984 and were completed in lesser time-span as compared to the earlier programmes.

The University was committed to saving a valuable year of the students. It was, therefore, important to devise ways and means to declare the results as expeditiously as was humanly possible, without in any manner short-circuiting the well-established norms and essential processes.

The evaluation of the huge number of scripts posed a very great problem, as the road and rail transport services in Punjab had, more or less, been suspended. It was not at all possible to send the answer-books for evaluation to the examiners living at different places within the State and outside. Besides, the despatch of scripts became a safety hazard, a risk which could not be taken in those conditions.

Central Evaluation

The University administrative set-up had the limited experience of an experiment in central evaluation of the Pre-Medical, Pre-Engineering and B. Sc. Part I and III examinations in the preceding two years. But this was only a small step in the direction, as hardly about 5000 students take the annual examinations in these courses. To expand or enlarge upon this little experience to cover all the major examinations at the first degree level where about one lac students were involved, was a stupendous task. Howerver, the decision was taken so that atleast some of the lost time was retrieved and the next academic session could commence at the earliest possible opportunity. The response from the academic community was heartening. What was needed was the proper organisation of the huge work involved in completing the task of getting fairly evaluated about 7 lacs answer-books in various subjects for the Pre-University to B.A./B.Sc./B.Com. Part I, II, III and the Hons. and other examinations. The time was short but the will to do was predominant. The work was enormous and constraints many. However, there was no question of any second thoughts.

In order to enable the students to compete for admissions to various professional courses, priority was given to the evaluation work of the Pre-Medical, Pre-Engineering, B. Sc. I year and B.Sc. III year examinations, as also of B. Com. part I, II and III examination.

The main centre was at the seat of the University in Chandigarh and two sub-centres at Ludhiana and Hoshiarpur, with the Principals of the two colleges working as co-ordinators and supervisors at their respective campuses. The University maintained a close and continuous liaison with them.

The spot evaluation of the scripts for the following examinations, was taken in hand.

1. Pre-University (Arts, Science, Commerce subjects); 2. Pre-Medical; 3. Pre-Engineering; 4. B.A./B.Sc./ B. Com. Part I; 5. B.A./B.Sc./B.Com. Part II; 6. B.A./B. Sc./ B. Com. Part III; 7. B.A. Hons; 8. Oriental and Traditional Examinations etc.

The table (given on next page) provides a comparative picture of the time taken in declaration of University results, for various under-graduate examinations for the last three years, including 1984. The time span for the purpose in 1984 could have been reduced still further if the practical examinations in the Science and other subjects had been completed earlier. The Examinations Branch had to wait for some days in each case for finally computing the results because in the Panjab University so far, the parctical examinations commenced only after the completion of the examinations in theory papers.

Economic Factor

The circumstances in which the examinations were held and completed and especially the short time that was at the disposal of the University for organising the large-scale effort of getting some seven lac scripts

---

*Formerly Registrar, Panjab University, Chandigarh.

Table

	1982			1983			1984		
	Date of last paper	Date of declaration of result	Number of days taken	Date of last paper	Date of declaration of result	Number of days taken	Date of last paper	Date of declaration of result	Number of days taken
Pre-University	10-5-82	3-7-82	53	12-5-83	4-7-83	52	29-8-84	28-9-84	29
Pre-Engineering/ Medical	23-4-82	19-5-82	25	29-4-83	25-5-83	26	13-8-84	31-8-84	17
B.Sc. Part I	3-5-82	16-6-82	43	6-5-83	20-6-83	44	21-8-84	21-9-84	30
B.Sc. Part II	4-5-82	24-6-82	51	6-5-83	22-6-83	46	22-8-84	18-9-84	26
B.Sc. Part III	4-5-82	27-6-82	53	7-5-83	18-6-83	41	13-8-84	11-9-84	28
B.A. Part I	5-5-82	16-6-82	41	9-5-83	20-6-83	40	24-8-84	21-9-84	27
B.A. Part II	4-5-82	24-6-82	51	7-5-83	27-6-83	50	23-8-84	18-9-84	25
B.A. Part III	4-5-82	27-6-82	53	7-5-83	30-6-83	53	23-8-84	11-9-84	18
B. Com Part I	3-5-82	3-7-82	60	9-5-83	2-7-83	53	11-8-84	27-8-84	15
B. Com Part II	5-5-82	5-7-82	60	11-5-83	9-7-83	58	14-8-84	27-8-84	12
B. Com Part III	8-5-82	7-7-82	59	12-5-83	7-7-83	55	13-8-84	30-8-84	17

evaluated in as less a time as possible, without in any way sacrificing the essentials of the system, did put some additional strain on the resources available for the purpose. The financial provisions for evaluation etc., had been made for normal times. The new situation demanded successfully carrying out the decision taken even if additional cost was involved. But the addition, by no means large, in the expenditure was set off by considerable benefits that accrued to the students, parents and others. As a matter of fact the new experiment was helpful in not only cutting down the red-tape, but certain items of sizeable expenditure were totally obliterated. Some of the obvious plus points were :

(i) Considerable time and money spent on long-drawn correspondence, between the University, Head-Examiners and the Examiners were saved. A good deal of expenditure on telephones and telegrams was avoided.

(ii) The meandering procedures in the processing of thousands of bills of the examiners, in two different branches of the office — the Secrecy Branch and the Accounts Branch — were, more or less, done away with.

(iii) The time spent in the despatch of answer-books from each of the examination centres to the University and thence to the examiners at places spread over long distances was gained.

The University arranged for the collection of the answer-books from the examination centres and these were brought to the headquarters with proper care and speed. (The expenditure on transporting scripts from about 150 examination centres was no doubt higher because of the escort provided by the Security forces.)

(iv) There was in recent years an increase in the cases of pilferage of the examination scripts at some of the railway stations. There were even instances of removal of the scripts from some of post offices, as well. This evil did not surface in the new system and no untoward incident was reported from anywhere.

(v) The process of counting and checking of answer-books became simpler and there was no complaint of loss of answer-books in transit — a position that did occur atleast at a few places during the preceding years.

(vi) On the spot payment to the examiners also meant considerable savings in the over-time payments to the office staff.

(vii) On the spot payment to the examiners the moment they completed their assignment provided them considerable sense of satisfaction. In fact the examiners, who earlier used to show reluctance to undertake the work because of long delays in payments were eager and enthusiastic in accepting and undertaking the assignment under the new arrangements.

(viii) The examiners were appreciative of the system for another important reason. They were spared the onslaughts of pressures brought by the parents, guardians, friends and students. They used to be approached almost with impunity when they did the work at their respective places, many of them candidly admitted.

Collection of Answer Books

A brief mention has been made above regarding the collection of examination answer-books from about 150 examination centres. Besides the centres located at Chandigarh and the four districts in Punjab, there were examination centres at such far off places as Passighat and Itanagar in Arunachal Pradesh, and the Andaman and Nicobar Islands, as the colleges, there are affiliated to the Panjab University. But it was not the long distances that created problems. The complexities of the situation were nearer home. The essential thing was to plan and organise well and carefully, so that no mishap could torpedo the arrangements.

The examination centres, as was done in the earlier years, were grouped into nearly half-a-dozen regions; each region was put under the charge of a team of senior office functionaries, headed mostly by a Deputy Registrar; a team for a smaller region was put under the charge of an Asstt. Registrar. The University vehicles alongwith those given to the University by two leading local colleges were geared to undertake this onerous work of collecting answer-books from the various examination centres. After every 2 or 3 days these vehicles would reach the centres, in the region and bring the scripts, arranged examination and subjectwise; these were delivered at the University office at Chandigarh, adequately escorted by the Security forces.

It must be added that the uninterrupted flow of the answer-books, which were transported with speed and safety on the earmarked days, went a long way in helping the proper organisation of the evaluation process.

The Mechanics

The answer-books that were received from the various centres were immediately checked as per the statements furnished by each Centre Superintendent.

(a) The absentee statements and other essential records received from each centre were preserved in appropriate files and discrepancies, if any, were recorded and necessary action taken.

(b) The answer-books, class-wise and subject-wise, were sorted out and sub-bundles were prepared for assignment to the examiners.

(c) The job of assigning the answer-books was done by the Deputy Regisrtar or the officer deputed by him. Adequate precaution and care was taken to ensure that the examiners were assigned the answer-books of places and institutions other than those where they lived and worked.

(d) Information was regularly fed to the authorities regarding the progress of the work.

(e) Each hall or room where the examiners, led by the respective Head Examiners worked, was put under the charge of a person not below the rank of a Superintendent who was assisted by 2 or 3 senior officials. These persons were responsible for receiving the packets of answer-books, delivering them to the Head-examiners and examiners, and providing all necessary facilities to them to accomplish their work. Some of these hawk-eyed persons did act as a check on those who from within tried cleverly to influence some examiners. Such instances were only a few and far between but the vigilance shown had the desired effect.

With the availability of the Head-Examiner on the spot, the job of co-ordianting and ensuring uniformity in the matter of assessment of answer-books and awarding of marks was facilitated to a very great extent. The way it was achieved this year could not be accomplished in the earlier years through postal communications. The examiners consulted their Head-examiner in case of any doubt or difficulty. The most important factor in this evaluation process was the ready availability of the help and guidance of the Head-examiner. With better understanding and cooperation, hardly any irritants developed between the Head-examiners and their examiners. The system worked smoothly with every one seriously and sincerely addressing himself to his work and appreciating each other's point of view and difficulties as well. The Head-examiners, as usual, did the test checking of the requisite number of answer-books and even more. Each examiner was entrusted with the job of evaluating 40 scripts per day. The actual evaluation process was preceded by the guidance provided by the Head-examiner to the set of examiners with him.

The University staff was made available for purposes of doing the routine work like checking of the totals and comparing the marks transcribed on the award lists and the like. Thus the award lists complete and checked in all respects, were available quite early to be passed on to the examination branches for the tabulation of the results.

The examiners were spared the labour of doing the ministerial work which they earlier did. They used to be provided the prescribed proformas etc. for the purpose. And these were given far in excess of the requirements of the job, resulting in the huge wastage of this important material. In the new system the University was able to avoid this wastage to a great extent. This is not an ordinary benefit. Perhaps an attempt to assess the cost benefit of this would be worth-while.

The experiment of central evaluation of the examination scripts in the Panjab University, Chandigarh has been carried out and it evoked favourable response from all concerned. The experience gained needs to be consolidated and further improvements, wherever needed or suggested, should be brought about. This valuable gain in bringing about an improvement in the system of examination on which so much emphasis has been laid from time to time, should not be allowed to be lost. It should rather become a permanent feature. ❑

American Studies Research Centre
HYDERABAD-500 007

Applications are invited for the positions of :

ACADEMIC FELLOW (History/Social Sciences)
ACADEMIC FELLOW (Literaure)

The ASRC is the largest library and centre in Asia for research on all topics relating to the United States. It serves scholars from India and South Asia writing post-graduate theses and mature works of scholarship. The Academic Fellows, of which there are normally two, are intimately involved in the academic administration of the Centre. They guide scholars, choose books for the collection, which now numbers 1,37,000 volumes, edit the **Indian Journal of American Studies** as well as symposia and commissioned works, participate in courses both in Hyderabad and around India, and represent the Centre at Seminars and Conferences.

Qualifications : The candidates for these positions must be totally fluent in English and possess a Ph.D. either in some area of American Studies, or in a discipline requiring competence in American scholarship. For the position of Academic Fellow in History/Social Sciences applicants specializing in history, political science, economics, public administration, sociology, psychology, anthropology or law are encouraged. All applicants must be thoroughly familiar with America and American work in their fields. A minimum of 8 years teaching and research experience is essential. However, applicants with 5 years teaching and research experience may also apply and be considered in the event of non-availability of a suitable candidate for the senior level.

The contract will be for three years which may be extended to five years.

Pay Scales are :

Senior : Rs. 1500-60-1800-100-2000-125/2-2500
Junior : Rs. 1200-50-1300-60-1900

Allowances admissible in the scales follow those of Central Universities.

Candidates called for interview will be paid first-class round trip train fare and given local accommodation.

Applications on plain paper giving full particulars, through proper channels, and listing upto three referees should be sent before **15 July 1986 to:**

The Director
American Studies Research Centre
Hyderabad-500 007

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL, KARNATAKA

ADMISSION TO B.E. and B. ARCH COURSES

Applications are invited for admission to B.E. Course in Civil, Electrical, Mechanical, Industrial Production and Chemical Engineering and also Bachelor of Architecture Course.

Minimum qualification for admission to the B.E. Course is a pass in Second year Pre-University course of Karnataka Board or any other equivalent (10+2) examination with 60% marks in Physics, Chemistry and Mathematics. For Architecture course, 50% marks in the above subjects/subject as passing an aptitude test.

Manipal Institute of Technology founded in the year 1957 has developed over the years into an excellent residential campus with well-equipped Laboratory, Library and other facilities and amenities for training and stay. College results have been consistently excellent in all the subjects, with several students bagging top places in the University. College also provides very good facilities for recreation, sports and other extra-curricular activities.

For full details and application forms, apply with a self-addressed envelope (size 9″ x 6″) affixing Rs. 1.10 stamps and a postal order for Rs. 25/- to :

THE DIRECTOR OF ADMISSIONS
DR. T.M.A. PAI FOUNDATION,
ACADEMY HOUSE,
P.O. BOX No. 2, MANIPAL 576 119.

COLLEGE OF PHARMACY

MANIPAL, KARNATAKA

ADMISSION TO B. PHARM. AND D. PHARM. COURSES

Applications are invited for admission to B. Pharm course commencing in August, 1986. Those who have secured not less than 50% marks in Physics, Chemistry and Biology/Mathematics at the 10+2 level can apply.

Applications are also invited for two-year Diploma in Pharmacy course from candidates possessing S.S.L.C. or equivalent qualification and to the Second year directly, from those possessing a degree or two year PUC or Intermediate with Physics, Chemistry and Biology subjects.

College of Pharmacy is attached to the Kasturba Medical College, Manipal Campus, providing hostel and recreational facilities founded in 1965. It has developed into a well-known institution providing excellent facilities for training. Besides the degree course, College offers post-graduate courses and facilities for doctoral research.

For full details and application forms, apply indicating the course for which admission is sought, with a self-addressed envelope (size 9″ x 6″) affixing Rs. 1.10 stamps and a postal order for Rs. 25/-.

THE DIRECTOR OF ADMISSIONS
DR. T.M.A. PAI FOUNDATION,
ACADEMY HOUSE,
P.O. BOX No. 2, MANIPAL 576 119.

Scientific Research and Higher Education :
Concerns of a Teacher-Scientist

Professor C.N.R. Rao, Director, Indian Institute of Science, Bangalore, President, Indian National Science Academy and Chairman, Science Advisory Council to the Prime Minister, delivered the Convocation Address at the University of Calcutta, Calcutta,

Reproduced below are excerpts from Professor Rao's Address.

Convocation

"...Today, science is no longer considered something unfamiliar or mysterious. There are many institutions in the country dealing with science and technology, and there is a reasonably large science base with a significant number of science, engineering and medical graduates. There has been considerable national investment in science and technology. Yet, we cannot say that science itself has made a major mark in our society. At the level of the common man, we are yet to raise the level of understanding and appreciation of issues and problems of concern to our society. Scientific attitude is yet to be inculcated in a vast majority of our population. We see very few peaks of excellence in science either at institutional or at individual level. I believe that the time has come to do something definitive about the status of science and technology in the country at this stage. Otherwise, it may be too late to do anything about it in another decade or so. This is because of the increasing problems of competition and population; science and technology itself is progressing so fast that we would find it difficult to catch up in the years to come. The rate of change of acceleration in science has been staggering. It is, therefore, necessary to make the right choices now and proceed with vigour to pursue the objectives and goals that we decide upon.

While discussing science and technology, it is not only necessary to distinguish between science and technology but also between technology applications and technology generation. We have now to decide in what areas of technology the country will be competitive with the rest of the world and in what areas we will be world leaders because of our special interest or natural advantage. For technology-oriented efforts, the only criterion should be the benefit that obtains for the country and the common man. In fundamental science also, we will have to make choices but here the only criterion would be excellence and there should be no restrictions in defining the scope.

I do not want to give the impression that scientific research is only for the pleasure of a select few. Many may not know that our celebrated Gurudev (Acharya Rabindranath Tagore) wrote in his book "Our Universe" : *"It is urgent that those who have begun their education should be allowed from the very start to enter the outer gate of science, if not into its threshold."* In expressing his interests in science, Gurudev also stated: *"In a country where there is continuous research in science, knowledge of it in fragmentary bits is being spread constantly. This is how one's heart's soil is quickened, becoming fertile with an alive feeling in science. It is the loss of it that has left our mind unscientific."* He then stated : *"At the conclusion of my life's chapter, I remain overwhelmed with the newest phase in natural science—in the magic of scientific theories."* Science and mathematics are an important part of man's culture just as poetry or music.

Quality in Science

It is common knowledge that the quality of scientific work in the country needs to be considerably improved. We have to show performance in fundamental science as also in technology. People often ask as to how we can measure quality or excellence. I believe that most men of science know what one means by excellence. For various reasons, however, we compromise to mediocrity in science and technology as we do in other walks of life, even though we fully realise what it requires to produce results of higher quality. Part of the problem may be because of various pressures and conditions under which we work. But it is also true that whoever tries to insist on quality, does accomplish his objectives to a reasonable extent. One may question why excellence has to be demanded so stringently in science, when in everyday life we accept mediocrity without any protestations even though it affects the very quality of life directly. This is because, in fundamental science, we have an international frame of reference, and we cannot possibly afford to compromise. The world of science does not really care about any specific problems that we scientists may be facing in developing countries like India.

Much of the fundamental science in the country is done in our universities, and the state of our universities is becoming worse and worse with time. Citation of the work done in India or of the journals we produce has not been gratifying. Unless we do something about higher science education in our universities, there is little hope that science in our country will prosper. We cannot afford to forget that the future of science and technology will crucially depend on the products of our universities. Our universities may not be able to fulfil their role in training manpower because of the lack of adequate support.

Some Issues in Higher Science Education

There is so much written about higher science education in the country that there is probably little new that one can add. A new education policy is soon to be announced by the Central Government. I shall, therefore, limit myself to issues which I consider to be significant. Higher science education today presents a rather discouraging picture. There are serious complaints at all levels about the lack of responsiveness in the system. Academic activities are at a low ebb. Several factors of a complex nature have contributed to the present condition. Some of the factors are related to processes and pressures in our society, and therefore reflect the social features prevalent in a particular region. However, there are several aspects where planners, administrators and teachers can do much.

We cannot consider the problems and challenges of higher science education without reference to the problems faced in school education. Inculcation of the scientific attitude in students is most essential in the early school years. It is also important to make sure that there is a proper vocational stream available at school level so that all students do not rush towards science and technical courses at college level. In spite of the various problems we are facing in science education, it must be admitted that many good students still come out of our school system, and a good percentage of them do extremely well in scientific and technical professions. However, in a large majority of schools in the country, the quality of training and facilities are inadequate, and we have to bring it up to a reasonable level.

The common problems associated with undergraduate science education are well known. Undergraduate education is concentrated in colleges, many of which are under-equipped, over-crowded and poorly staffed. Laboratory and library facilities are generally inadequate; proper text books are not available. The level attained by a B.Sc. in India today is very much inferior to that of a graduate in advanced countries. It is at the undergraduate level that there is a sudden gap in the quality of education. While there are some select centres where the quality of postgraduate science education is reasonable, similar undergraduate centres are not available for bright students who want to take up science. Undergraduate curricula are rigid even in the best of places. Combinations such as PCM and CBZ do not provide the necessary breadth or depth. The absence of flexibility has made it impossible for a good student to obtain sound, well-rounded training. For example, a physics student cannot study biology just as a biology student can never study mathematics or physics. We have to make flexible programmes available and ensure that all science students have adequate background in mathematics and biology.

All those who take science courses at the undergraduate level are not necessarily going to be scientists. It is, therefore, all the more important that we have atleast two streams in science education—one of general purpose and another of a specialised nature (for those who want to be scientists). The absence of such specialised training opportunities is making our undergraduate science education not so meaningful.

At best, we are imparting *information* to students, but little *knowledge* or *wisdom*. Quoting Eliot, *"Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?"*

A specific deficiency in undergraduate instruction is that related to computers and microprocessors. When the computer age has started all over the world (and even in India), we have not made a good beginning in this direction. Unless use of small computers is introduced at higher secondary and undergraduate levels, our younger generation will face serious problems.

In another 15-20 years, undergraduate enrolment will get doubled. Can we even duplicate the present facilities (however poor)? Selectivity is obviously important. We have to find ways of tapping the best talent in the country for science and provide the best possible training to talented students in selected institutions. Present efforts in this direction are most inadequate.

Many of the problems mentioned with respect to undergraduate science education also hold for post-graduate education. There are too many institutions offering postgraduate education in science. Most of them are under-equipped and proorly staffed. I see no point in producing such a large number of M.Sc. graduates; the number of people trained at the Master's degree level should have some relation to national manpower requirements. We must have selective admission and selective recognition of institutions atleast at the M.Sc. level.

University departments are expected to carry out research. Although some good work has come out of the universities, it would not be wrong to say that most university departments have poor facilities. They are also short of highly qualified and motivated teachers. Now-a-days, research support to individual scientists is quite satisfactory. However, institutional infrastructure seems to be generally unsatisfactory. Shortage of student accommodation and amenities, poor electricity and water supply are common. Unless the universisities have sufficient strength to support higher education and research, the support we may give to individuals or departments would not yield maximum benefit. It is, therefore, important that universities get more basic bread and butter funding. A possible solution to this would be to give a reasonable percentage of research grants as overheads to universities. Otherwise, plan budgets allocated for science in the educational sector would be too meagre.

Even in an advanced country like the United States, people are concerned about the decreasing quality of instruments and other facilities in some of the major universities in order to carry out advanced research in science and technology. Scientists in Britain are very much worried about the competitive capacity of their universities. We can imagine how serious our problems are when even the leading American and British universities have to worry about their condition at this juncture.

We can make a large number of recommendations, but there would be nothing new in many of them. An obvious one would be to multiply the education budget. Many such recommendations would cost enormous money and it would be unrealistic to expect all of them to be accepted or executed. Some of the important recommendations, however, do not require much money, but rather our determination to improve the quality of education. I list some of them here at the cost of some repetition. Admission to the science specialization stream should be made selective; students in the special stream in undergraduate education must get the best possible science education. A few model undergraduate science institutions should be supported in each state to attract students for science just as IITs and Regional Engineering Colleges have been attracting students for engineering education. The facilities and capabilities of certain established major institutions should be used to start these model programmes. Universities should no longer be responsible to conduct undergraduate examinations. Separate examination boards or groups of colleges should conduct these examinations. Text books in all subjects (at school and undergraduate levels) should be made available to students. Colleges must have several copies of texts in the reserve sections of libraries. Computer facilities and formal training programmes in computing must be made available in each major town or city, if not in each school and college, so that youngsters can get adequate training. Design and fabrication of instruments for teaching and research have to be promoted in a major fashion if we have to remain competitive in science. Individuals and departments involved in instrumentation activity should get special support and recognition.

In view of the exploding frontiers of knowledge, better ways of training and retraining teachers will have to be explored. Ways have to be found for attracting better scientists and engineers to the teaching profession. Support to select departments under the CAS and DSA programmes of the University Grants Commission should be enhanced. It would be desirable to support research units of individual workers where necessary; this would be specially applicable to situations where the department itself may not be strong enough to get adequate support. Infrastructure of universities has to be improved greatly. Since there is no simple way of doing this other than by increasing the budget of universities, an additional source could be right away provided by earmarking 5% of the S & T budget of scientific agencies and departments for the purpose of higher science education and research in the educational sector.

Manpower Training

We have a great shortage of manpower in many specific sectors of science and technology in the country. There are many positions vacant in institutions, but there are no people with specialisation in these areas. This is even true of experimental physics, let alone areas such as computer science and various branches of engineering. At the same time, we have a large number of unemployed graduates, and this mismatch in manpower training has to be tackled right away in order that we become competent in science and technology in the next decade. The highly trained manpower required by the year 2000 A.D. has to be produced now. We should not forget that the training we impart to students is extremely important because the young graduates of today are going to be the senior managers of society in the next 15 years or so. We in the [illegible] s, therefore, have a major responsibility...

Agony and Ecstasy in Scientific Research

It is the choice of a research problem that generally determines the quality of research. In fundamental science, one has to pick the right problem to be noticed. In applied science, we have to pick problems that yield most benefit. The difference between first-rate and second-rate research is often very small, and a little more effort can transform second-rate work into first-rate work. However, we often prefer to do repetitive work and carry out what one may call "thousand-titration" type research, rather than do something novel or new. Even under these difficult conditions, those who have pursued with determination and doggedness have in fact succeeded in producing work of quality. Many people ask, how is it that scientists in India cannot make a chance discovery which is great? Unfortunately, even to make a chance (serendipic) discovery, one has to be on the right path. We cannot make a great discovery by chance, if we are already not pursuing something very important and significant. We shall never find gold nuggets in a tea cup.

Because we decide to compromise, many of us have lost the confidence to pursue something difficult or of value to society. We are becoming afraid of scrutiny and evaluation. Lack of confidence amongst senior scientists has affected the young people, who now look for opportunities elsewhere and venues other than science. If we have to provide leadership and enthuse the younger generation by giving them the confidence to carry out scientific work, we senior scientists have to show the way by our performance. We have to develop a better value system and also bring in changes in the reward system...

One cannot think of better examples of men of science than Ramanujan, Raman, J.C. Bose, S.N. Bose and Meghnad Saha. J.C. Bose was a man of immense talent and interests. He was the Indian Leonardo da Vinci. Raman was sure that he would win a Nobel Prize when he discovered the Raman Effect and, in fact, there is reason to believe that he was sure of it even much earlier. S.N. Bose, soon after his post-graduate studies, had the courage to send his results to none other than Einstein for review. This example of courage of conviction is something that we have to emulate; it needed tremendous confidence to feel that the work he had done deserved the highest recognition. Much earlier to this, Ramanujan, one of the greatest mathematicians of all time, did something similar. Working as a clerk in a port, with no one to help and without a college education, Ramanujan felt that he had discovered something new working on "Orders of Infinity" and sent the results to Prof. Hardy at Cambridge. When Prof. Hardy recognised him, Ramanujan felt encouraged. Ramanujan did not have sufficient funds even to maintain himself. He did not have a scholarship. There were no funding agencies then. When he received the first encouraging letter from Prof. Hardy, Ramanujan wrote *"I have found a friend in you who views my labours sympathetically. To preserve my brain, I want food and this is my first consideration now. Any sympathetic letter from you will be helpful to me here to get a scholarship".* It really baffles me that this was the case. We have to do something to recognise talent, to nurture it and to protect people with talent. Men of talent are often subjected to considerable hardship and harassment. It appears as though that to get results that are worthwhile, we have to toil beyond the call of duty.

I cannot possibly overemphasise the agony one goes through doing science, especially experimental science. I talk about this with personal experience as a chemical physicist doing experimental work for nearly three decades. It is extremely difficult to do experiments which are worth-while today. It is much more difficult to do so if the experiments have to catch the imagination of the rest of the world. It is often difficult to do this with borrowed or commercial instruments. If one has to be novel, one may have to build one's own instruments or modify the existing instruments, atleast in physical sciences. Even if the instruments we build are crude, we can often come out with something different or new, if the idea is novel. This, of course, requires enormous effort but it is essential if experimental physical scientists in India have to have a place in the sun. There is no other joy that I know of that is more overwhelming than the joy of a successful experiment designed by oneself.

Sometimes, I get the feeling that in this land of Karma, toil and sweat are essential; even with toil and sweat, results are not assured, but without them nothing seems possible. We often have to struggle hard for little things and work against all odds, even without water and electricity. I realise that toiling hard in science may not be the best way to make money or earn a living, but I know no better way to live. One may ask whether I would recommend to young people to take up science as a profession. Yes, unhesitatingly I would. I believe that the thrill that I have experienced in doing science is worth sharing. The agony of doing science and the ecstasy when one accomplishes, in spite of all the hardship, are both experiences that are worth cherishing...." ☐

Computer Link-up for IITs

A proposal to link up with computer network of all the IITs in the country is reported to be under contideration of the Government. According to Prof. S. Sampath, Director of IIT, Kanpur, the basic objectives of the project are to carry out technology development research and training programme in the area of computer network including concepts relating to the emerging integrated services/digital networks. Under this programme all the IITs would have their own satellite stations. Besides IITs, the Indian Institute of Science, Bangalore, National Centre for Software Technology, Bombay and the Department of Electronics, New Delhi would also be linked up with this network.

The programme is planned in a phased manner. In the first instance all the centres would be linked up within a period of four years. This facility would later be extended to all the scientific institutions and universities in the country under national network programme to interact on various programmes.

The estimated expenditure to be incurred on this project is approximately of the order of Rs. 10 crores which would be shared by all the participating agencies. A grant-in-aid under the United Nations Development Programme (UNDP) is also expected.

Sanskrit University at Kalady

The Sanskrit University proposed to be established at Kalady (Kerala) would have 10 faculties in the first instance. These are Darsana (Philosophy), Sahitya and Sanskrit (Literature and Culture), Comparative Studies, Modern Languages (including Hindi, Malayalam, Tamil, Telugu, Kannada, Bengali, Marathi and Gujarati), Foreign Languages (including English, German, French, Russian and Chinese), Humanities, Fine Arts, Education, Science & Technology and Ayurveda. The courses proposed to be conducted are Prak-Sastri (Pre-degree), Sastri (BA), Acharya (MA), Sastra Chudamani (M. Phil), Vidyavaridhi (Ph.D), and Vachaspati (D. Litt.).

When fully established the University would have 15 teaching and research departments and about 30 smaller departments devoted to research alone with over 100 members on the faculty.

Ph.D. in Stenography!

The first ever Ph.D. degree in Stenography was recently awarded to Dr. G.D. Bist, a parliamentary reporter, by Prof. R.P. Bambah, Vice-Chancellor, at the annual convocation of the Panjab University.

Dr. Bist has established a speed record of 250 words per minute in Hindi. He is also the inventor of Braille shorthand in Hindi for the visually handicapped. Known for his writing Sanskrit shorthand, Dr. Bist has a number of books on shorthand and typewriting to his credit.

Curiculum Development Centre

The University Grants Commission has set up a Curriculum Development Centre in English, at the Central Institute of English and Foreign Languages, Hyderabad with Dr. J. Sethi, Professor and Head, Department of Extension Services, as the convener. The functions of the Centre would be to : (a) examine the existing curriculum of all major universities; (b) formulate new curriculum; (c) suggest/formulate textual materials/teching aids; and (d) suggest ways and means for teacher training.

In order to carry out these functions the Centre has set up two national-level committees—one for the postgraduate level and the other for the undergraduate level. Besides, the Centre has moved for the setting up of an Advisory Committee of the Institute to advise the Centre.

The Centre will hold a series of workshops of the two national-level committees to discharge the duties assigned to it.

Cochin University to Host National Symposium on Quantum Electronics

The Cochin University of Science and Technology in collaboration with the Bhaba Atomic Research Centre, Bombay proposes to organize a National Symposium on Quantum Electronics in December this year. About 250 laser experts from all over India and abroad are expected to participate in this symposium. Sponsored and funded by the Department of Atomic Energy, Government of India, the Symposium will highlight and discuss the latest developments in laser technology and the utilisation of this high technology in the Indian context.

Computer Training in Library and Information Science

The Jiwaji University has set up a compuer centre with the assistance of the University Grants Commission. The centre will impart training to Library Science students in the use of the Computer for performing various technical processing of information in Libraries besides managing readers services.

Electronic Centre

A Centre for Electronic Design and Technology (CEDT) has been set up at the Marathwada University, Aurangabad. The Centre will conduct diploma, degree and M. Tech. courses in product development with technician training programmes and electronic product testing systems. The initial intake to these courses would be 270.

The total cost of this electronic training institute is estimated to be Rs. 620 lakhs, of which Rs. 320 lakhs has been met by the Centre.

Association o
Sports

S. No.	Game	Org. Univ.	August	September	October	November	December	January	Last date of receiving detailed entries
	GAMES ON ALL INDIA BASIS								
1.	Athletics (M and W)	Allahabad	—	—	—	13th(CE)	28th(C)	—	Dec. 18
2.	Ball Badminton (M)	Gandhiji	—	—	—	15th(CE)	—	4th(C)	—
3.	Ball Badminton (W)	Mangalore	—	—	—	—	3rd(CE)	17th(C)	—
4.	Boxing	O.U.A.T.	—	—	—	—	2nd(CE)	8th(C)	Dec. 29
5.	Cricket (W)	Madras	—	—	23rd(CE)	—	7th(C)	—	—
6.	Cross Country Races (M and W)	H.A.U.	—	17th(CE)	—	2nd(C)	—	—	Oct. 24
7.	Cycling (M and W)	Punjabi	—	—	—	—	3rd(CE)	9th(C)	—
8.	Gymnastics (M and W) and Malkhambh	Delhi	—	—	—	8th(CE)	15th(C)	—	Dec. 5
9.	Rowing	Calcutta	—	—	7th(CE)	25th(C)	—	—	Nov. 5
10.	Squash Rackets	B.H.U.	—	—	—	—	1st(CE)	15th(C)	—
11.	Swimming (M and W), Diving and Water Polo	Poona	25th(CE)	—	10th(C)	—	—	—	Sept. 30
12.	Tennis (W)	Annamalai	—	—	—	—	1st(CE)	16th(C)	—
13.	Wt. Lifting and Best Physique	Mysore	—	—	—	14th(CE)	21st(C)	—	Dec. 11
14.	Wrestling	Marathwada	—	22nd(CE)	—	8th(C)	—	—	Oct. 29

S. No.	Game	Org. Univ.	Zone	August	September	October	November	December	January
	GAMES ON TWO-ZONE BASIS								
*1.	Basketball (W)	IIT, Kanpur Madras	NEZ SWZ&IZ	—	16th(CE)	Last week &	1st week (CIZ 3rd)	—	—
2.	Chess	Vacant Vacant	NEZ SWZ&IZ	—	1st(CE)	2nd & 3rd weeks (CIZ 23rd)	—	—	—
*3.	Handball (M&W)	Delhi Saurashtra	NEZ&IZ SWZ	—	—	—	30th(CE)	—	2nd fortnight (CIZ 26th)
*4.	Hockey (W)	Ravishankar Banasthali	NEZ&IZ SWZ	—	—	31st(CE)	—	2nd & 3rd weeks (CIZ 16th)	—
*5.	Kabaddi (W)	G.N.D. Poona	NEZ&IZ SWZ	—	15th(CE)	—	1st&2nd weeks(CIZ 12th)	—	—
*6.	Kho-Kho (M)	Agra Nagpur	NEZ SWZ&IZ	—	—	—	20th(CE)	—	1st &2nd weeks (CIZ 12th)
7.	Kho-Kho (W)	Vacant Mysore	NEZ SWZ&IZ	—	—	—	—	1st(CE)	2nd fortnight (CIZ 28th)
8.	Tennis (M)	Vacant Bharathiar	NEZ SWZ&IZ	—	—	—	30th(CE)	—	2nd fortnight (CIZ 28th)

Indian Universities
Calendar 1986-87

S. No.	Game	Org. Univ.	Zone	August	September	October	November	December	January
*9.	Volleyball (W)	G.N.D.	NEZ&IZ	—	—	15th(CE)	—	1st fortnight (CIZ 12th)	—
		Saurashtra	SWZ						

NOTE :—For tournaments run on two-zone basis, North & East Zones combine to make NEZ and South and West Zones combine to make SWZ.

GAMES ON FOUR-ZONE BASIS

S. No.	Game	Org. Univ.	Zone	August	September	October	November	December	January
1.	Badminton (M&W)	Vacant	NZ	—	—	15th(CE)	—	1st fortnight (CIZ 12th)	—
		Ravishankar	EZ						
		Madurai Kamaraj	SZ						
		Bombay	WZ&IZ						
*2.	Basketball (M)	Avadh	NZ	—	—	7th(CE)	Last week & 1st week (CIZ 1st)		—
		Berhampur	EZ&IZ						
		Bharathiar	SZ						
		Gujarat Agril.	WZ						
3.	Cricket (M)	Jammu	NZ	—	—		4th(CE)	From 20th upto 20th (CIZ 12th)	
		Calcutta	EZ&IZ						
		Bangalore	SZ						
		Rajasthan	WZ						
*4.	Football (M)	Panjab	NZ	—	1st(CE)	2nd fortnight & 1st week (CIZ 1st)		—	—
		Burdwan	EZ&IZ						
		Kerala	SZ						
		Amravati	WZ						
*5.	Hockey (M)	Lucknow	NZ	—	—	—	15th(CE)	—	1st three weeks (CIZ 14th)
		Sambalpur	EZ&IZ						
		Karnatak	SZ						
		Bhopal	WZ						
*6.	Kabaddi (M)	Kurukshetra	NZ	—	—	1st (CE)	2nd fortnight (CIZ 22nd)	—	—
		Vacant	EZ						
		Annamalai	SZ&IZ						
		Amravati	WZ						
7.	Table Tennis (M&W)	B.H.U.	NZ&IZ	—	—	15th(CE)	—	1st fortnight (CIZ 12th)	—
		Bidhan Chandra Krishi	EZ						
		Madras	SZ						
		Jodhpur	WZ						
*8.	Volleyball (M)	Meerut	NZ	—	7th(CE)	Last week & 1st week (CIZ 5th)		—	—
		Ranchi	EZ						
		Osmania	SZ						
		Shivaji	WZ&IZ						

Note : *1. These tournaments shall be played on league basis from the Zonal Semi-Final Stage.

2. Inter-Zonals of the tournaments in the games of Basketball (W), Handball (M&W), Hockey (W), Kabaddi (W), Kho-Kho (M&W) and Volleyball (W) run on two-zone basis shall be played on league basis.

3. Inter-Zonals of the tournaments in the games of Basketball (M) Football, Hockey (M), Kabaddi (M) and Volleyball (M) run on four-zonal basis, shall be played on league-cum-knock-out basis.

4. Inter-Zonals in respect of Cricket (M) shall be played on knock-cum-knock out basis.

IMPORTANT

1. Entries should reach the organising universities within the dates prescribed in the sports calendar. Entries received late will not be accepted.

2. *Detailed entries do not include eligibility details which are to be supplied to the organising universities as per rules.*

3. Universities standing in arrears by 15th August on account of annual subscription or any other dues shall be debarred from participation in the Inter-University Tournaments *till* the arrears are cleared.

4. In case of tournaments run on zonal basis, the dates of commencement of the Inter-Zonals are given. The dates of the zonal tournaments shall be fixed in such a manner that the teecams participating in Inter-Zonals are not inconvenienced.

5. The closing dates of the entries of the various Inter-University Tournaments as specified herein will remain the same even though the dates of the corresponding tournaments are eventually postponed by any period.

6. Entries should reach the Organising Universities within the closing date of entries prescribed in the sports calendar under registered cover A.D. Entries in tournaments in which the venues are vacant should be mailed to this office so as to reach this office not later than the closing date of entries. Entries received after the due date will not be accepted.

7. In this calendar, the following abbreviations have been used :

C —Dates of commencement of tournaments run straightway on All India Basis.
CE —Last date of closing the entries. CIZ—Commencement of Inter-zonals. IZ—Inter-Zonals.
NZ —North Zone. EZ—East Zone. SZ—South Zone. WZ—West Zone.
NEZ —Combined North and East Zone. SWZ—Combined South and West Zone.

American Studies Research Centre

HYDERABAD 500 007

Applications are invited for he position of

FISCAL OFFICER

Desirable qualifications for applicants include a Master's degree in Commerce or Business Management with specialization in accountancy and auditing as special subjects. Persons with a Bachelor of Commerce degree who have passed the final examination of chartered accountancy or cost accountancy may also apply. Applicants should have atleast 5 years' experience in a supervisory capacity in an accounting department, preferably an educational institution. Qualifications relaxable in exceptional cases.

The incumbent supervises the fiscal section and works under the Director of the Centre. Other responsibilities include commitment (accrual) accounting, finalization of annual accounts and preparation of accounts for the auditors, collection of fiscal data for drawing up budget proposals, and supervision and evaluation of staff in the fiscal section.

Pay Scale : Rs. 1400-60-2000. Total emoluments at the beginning of the Scale are Rs. 3400. Provident Fund and gratuity on confirmation.

ASRC is a research library with a program of seminars, speakers and publications. It is a registered society incorporated under the Indian Societies Act and has a binational Board of Directors.

Kindly mail, **before 15 July, 1986,** detailed resume giving full particulars viz. (1) Name; (2) Date of Birth; (3) Present Address; (4) Academic Qualifications with details of marks and class secured; (5) Previous experience including name and address of institutions and dates employed, to :

Director
American Studies Research Centre
Hyderabad-500 007

News from Agril. Varsities

Massive Training in Scientific Sericulture

In order to provide comprehensive knowledge and imparting skill in scientific sericulture the Krishi Vigyan Kendra of the Sher-e-Kashmir University of Agricultural Sciences and Technology organised four training courses at different villages in district Pulwama. The objectives of the courses were (i) to educate the farmers about scientific rearing of silkworms by selecting suitable rearing and rearing equipments; (ii) to impart knowledge about optimum environmental requirements for orderly growth of silkworms; and (iii) to educate farmers to control/minimize the chances of diseases.

Each course was of one-day duration and about 25 practising silkworm rearers participated. The scientific teachniques of silkworm were discussed and demonstrated. The farmers were also advised not to follow the traditional methods of rearing and that they should not use non-ventiliated and damp houses. They were also given to understand about the correct use of disinfectants, their importance and economical methods of disinfection.

About 200 farmers were trained in scientific techniques of sericulture at these training courses.

Management Techniques to Maximize Horsegram Yield

Studies conducted at the Tamil Nadu Agricultural University (T.N.A.U.) to develop appropriate management practices for horsegram (Co. 1) revealed that mid-September sowing recorded the highest grain yield (1.15t/ha). Yield reduction was noticed when the sowing time was delayed (1.04 t/ha in September end, 0.86 t/ha in mid-October and 0.70 *t/ha in October* end). Closer spacing (30×10 cm) gave higher yield (1.15 t/ha) than 45×10 and 60×10 cm spacings which recorded 1.03 t/ha and 0.96 t/ha respectively. When the crop was inoculated with rhizobia, a yield of 1.17 t/ha was recorded, the increase in yield being 14.6% over that of the un-inoculated crop. Application of P_2O_5 @ 20 kg/ha gave significantly haigher yield (1.28 t/ha) than the control (0.66 t/ha). Hence, sowing of horsegram early during mid-September, adoption of closer spacing of 30×10 cm, rhizobial inoculation and fertilisation with P_2O_5 @ 20 kg/ha are suggested for maximising the yield.

Training Course on Raising of Mustard as a Summer Crop

A One-day training course on "*Raising of Mustard as a Summer* Crop" was organised at the Krishi Vigyan Kendra of the Sher-e-Kashmir University of Agricultural Sciences and Technology. The objective of the course was (i) to impart training to intended participants in oil seed production (Mustard); (*ii*) to *identify* areas prone for Mustard raising as a summer crop; and (iii) to give demonstration in cultivation of Mustard Crop.

A planned methodology was adopted in the training course to disseminate the knowledge and impart the skill through lectures and field demonstrations. At the out set the farmers were made aware about the problems related to oil

Sports News

Varsities Wrestling Team for Jr. National Championship

The Junior National Wrestling *Championship was conducted* by the Maharashtra Wrestling Association at Pune from June 5 to 8, 1986. Indian Universities Junior Wrestling *Team consisting of the* following wrestlers participated in this Championship:

Dalel Singh, (Panjab University); Raj Kapoor (GNDU); Narender Singh (HAU); Rajender Pal (Rajasthan University); Yogesh Kumar (Amravati University); Rakesh Kumar (HAU); Rajiv Kumar (Panjab University); Davender Kumar (*Maharshi Dayanand Univ.*);

Prior to participation, the members of the team were under training at HAU, *Hissar. The following* wrestlers won Bronze medals in the National Championship in the weight categories mentioned against their names.

(1) Raj Kapoor - 52 kgs.—Guru Nanak Dev Univ. (2) Narender Singh 56 kgs.—Haryana Agricultural Univ.

seed crop and the package of practices including various operations and plant protection measures to be adopted were discussed. In the field demonstrations, the operations carried out in the presence of the farmers included seed treatment, application of fertilizers, sowing of seeds and covering of seeds with the soil.

About 50 farmers from different villages of Pulwama and Anantnag districts participated in the course.

National Centre for Weed Research

The Govt. of India, it is reported, proposes to set-up a national research centre on weed science to deal with the problems of weed. A four-member committee, headed by Dr. V.M. Bhan, Professor of Weed Science at the Haryana Agricultural University, has been constituted for selecting a site for the location of the proposed centre.

Seed Treatment for Drought Tolerance

Experiments conducted by the scientists of the Tamil Nadu Agricultural University (TNAU) during 1984-85 and 1985-86 on pre-sowing seed treatment for inducing drought tolerance and high yield in greengram (Co. 4) and blackgram (Co. 5) under rainfed situation revealed that when seeds, coated with paste made of ash (500 g/ha of seeds)+3% gum (Acacia gum), were shade-dried and sown before the onset of monsoon it resulted in an increased grain yield of 158 kg/ha in greengram and 139.5 kg/ha in blackgram over control. The cost of seed treatment was only Rs.5/hectare while the additional income due to the seed treatment was Rs.697/ha in greengram and Rs. 622.75/ha in blackgram.

Inter-University Youth Festivals 1986

In a few months from now, the youth from various universities, along with their cultural talents, would participate in a series of four Inter-University Zonal Youth Festivals and a National Youth Festival at selected universities. The idea of organising youth festivals and other cultural activities was first launched by AIU during its Diamond Jubilee Celebrations in 1985 with the objective of promoting cultural activities among the university students from different regions of the country.

The broad objectives of youth festivals are to foster friendship, togetherness, concern, participation, development, peace and love among the youth of today. These Meets help the youth to channelise their energies in the best constructive direction. The ensuing youth festivals would also witness youth, hailing from diverse regions of our vast land and breaking the barriers of caste, creed, language and religion to render their youthful cultural expression on a common platform. Also this would kindle a strong desire of cultural values amongst the university youths for creating awareness and pride to discern and appreciate the rich cultural heritage of our country.

As in the previous year, at first four Inter-University Zonal Youth Festivals are being organised. Selected students from the zonal youth festivals will be invited to participate in the National Youth Festival. These festivals will be hosted by different Universities and their names will be announced shortly. A wide spectrum of cultural activities would be the most glittering part of these Meets.

The following cultural items would be covered during the forthcoming Youth Festivals:

Items	Participants	Accompanists	Total No. P+A	Time
1. Music				
(a) Classical Vocal Solo (Hindustani or Karnatic)	1	+2	3	10 mts.
(b) Classical Instrumental Solo (Hintani or Karnatic)	1	+2	3	10 mts.
(c) Light Vocal (Indian)	1	+2	3	6 mts.
(d) Western Vocal (Solo)	1	+2	3	6 mts.
(e) Group Song (Indian)	6	+3	9	10 mts.
(f) Group Song (Western)	6	+3	9	10 mts.
2. Dance				
(a) Folk Dance	8	+3	11	10 mts.
(b) Classical Dance	1	+3	4	15 mts.
3. Literary Events				
(a) Debate (2)	2+2	—	4	4+1=5
(b) Elocution (2)	1+1	—	2	5 mts.
(c) Quiz	3	—	3	
4. Theatre				
(a) One Act Play	9	—	9	30 mts.
(b) Skits	6	—	6	10 mts.
(c) Dumb Charades	3	—	3	90 seconds
(d) Mime	6	—	6	5 mts.
5. Fine Arts				
(a) On the Spot Painting	1	—	1	2 hrs 30 mts.
(b) Collage	1	—	1	2 hrs 30 mts.
(c) Poster Making	1	—	1	2 hrs 30 mts.
(d) Clay Modelling	1	—	1	2 hrs 30 mts.
(e) Cartooning	1	—	1	2 hrs 30 mts.

News from UGC

Nominations for Fellowships in FRG

The University Grants Commission has invited nominations for the award of 12 (twelve) fellowships for advanced studies and research at Universities and research institutions in Federal Republic of Germany and in West Berlin for the year 1987-88.

These fellowships, which are of one year duration with the possibility of extension and are offered by the German Academic Exchange Service, are in the field of Natural Sciences, Humanities and Social Sciences (Linguistics, History, Philosophy, Sociology and Economics), Law and German Language and Literature. Two out of these fellowships are earmarked for German Language and Literature.

While the fellowships for Natural Sciences, Humanities and Social Sciences and Law are open to staff members in the various Departments of Universities and their affiliated colleges, those for German Language and Literature are meant for teachers/students of German Language registered for Ph.D. with an Indian University and wish to go to Germany for collection for additional material for their thesis.

The value of each fellowship will comprise free passage from New Delhi to place of study in FRG and back, maintenance allowance @ DJ 1440 P.M., exemption from payment of university fees, special clothing allowance (DM 400), baggage allowance (DM 150 each way), book allowance (DM 200 per year), additional allowance for incidental expenses (DM 200), allowance for compulsory health insurance (DM 600 per year), and free tuition, boarding and lodging etc.

The last date for the receipt of nominations by the University Grants Commission in the prescribed proforma is **July 15, 1986.** The Commission would also pay second class rail fare from the place of duty to New Delhi and back to the candidates called for interview.

Professor Satchidananda Murty Takes Over As Vice-Chairman, U.G.C.

Professor K. Satchidananda Murty has taken over as the new Vice-Chairman of University Grants Commission. He succeeds Dr. Rais Ahmed.

Born on September 25, 1924 Professor Murty has a distinguished record of academic achievements and is a well-known Philosopher. He has been teaching Philosophy at Andhra University for over three decades. Widely travelled, he has lectured at several universities and institutions of Europe, USSR, USA and Asia. He had also been a Visiting Professor at the Indian Institute of Advanced Study Shimla and the Princeton University, U.S.A. He was the Vice-Chancellor of Sri Venkateswara University at Tirupati.

Professor Murty, a recipient of Padma Bhushan, is the first philosopher to receive Dr. B.C. Roy National Award.

Professor Murty was General President of Akhil Bharatiya Darshan Parishad, Lucknow Session in 1963 and of Indian Philosophical Congress, Patna Session in 1968 and has been Chairman of the latter since 1980. Currently he is the National Fellow, Indian Council of Philosophical Research.

Professor Murty has made important contributions to Metaphysics, Philosophy of religion, comparative philosophy and philosophies of culture, peace and education and has several works to his credit.

News from Abroad

A Computerised Library

In a matter of minutes, readers at the Moscow State Public Scientific and Technical Library get, with the help of a computer, information on the publications in a particular field. It earlier took hours to find them by the conventional methods.

Information systems are finding their way into the Library, helping people know more about specific things and keeping scientists, engineers and researchers in the know about the latest discoveries in science and technology in this country and abroad.

The Moscow Library is a major scientific-information centre in the world. It maintains contacts with over 2,000 organisations in 47 countries; 3,000 foreign specialists and students study in its reading halls annually.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
July 7-18, 1986	Short-term training programme on Abstracting and Indexing	Application of abstracting and indexing methods, use of vocabularies in indexing, construction of indexing language (thesaurus) for information system	National Institute of Small Industry Extension Training, Hyderabad	Mrs. K. Subhashini, Course Director, NISIET, Yousufguda, Hyderabad
August, 1986	Seminar on Adult Education and Libraries	Topics to be covered are (i) NAEP and Libraries; (ii) Public Libraries and Extension work; (iii) Public Libraries and Mass Communication; and (iv) Academic libraries and Extra-Mural Activities	Jiwaji University, Gwalior	Dr. S.M. Tripathi, Head, School of Studies in Library and Information Science, Jiwaji University, Gwalior.
September 13-15, 1986	National Solar Energy Convention 1986	To evaluate the current status and trends in solar energy studies; to evolve methodology for collaboration among researchers and industrialists; and to identify technologies for harnessing renewable energy sources	School of Environment and Natural Resources, Madurai Kamaraj University, Madurai	Prof. T, M. Haridasan, Organising Secretary, Natural Solar Energy Convention—1986 School of Energy, Environment and National Resources, Madurai Kamaraj University, Madurai
October 1-4, 1986	Third National Conference on Women's Studies	To promote the development of Women's Studies in India by providing a forum for interaction amongst individuals, institutions and organisations engaged in teaching, research or action for women's development.	Indian Association for Women's Studies, New Delhi in collaboration with Panjab University, Chandigarh	Dr. Lucy Jacob, General Secretary, IAWS, L-3-D, University Campus, Jaipur
November 9-10, 1986	National Conference on Distance Education	Topics proposed to be covered are: (i) Concept of Distance Education; (ii) Forms of Distance Education; (iii) Course Designing and Preparations; (iv) Role of Media in Distance Education (v) Financing of Distance Education; (vi) Student Support Services; (vii) Evaluation Methodology.	Association of Indian Universities, New Delhi; Indira Gandhi National Open University, New Delhi, and Gujarat University, Ahmedabad	Prof. B. N. Kaul, Indira Gandhi National Open University, K-76, Hauz Khas, New Delhi. Dr. M.M. Ansari, Association of Indian Universities, 16 Kotla Road, New Delhi.
December 26-28, 1986	Seventh National Congress of Parasitology	Prophylaxis and control of parasitic diseases of man and his biosphere	Department of Bioscience, Ravishankar University, Raipur, in collaboration with Indian Societies for Parasitology	Dr. S.M. Agarwal (Organising Secretary) Vice-Chancellor, Ravishankar University, Raipur
January 6-9, 1987	**International Seminar on Cement and Allied Building Materials**	**Exchange of knowledge and experience to assist the cement and building materials industries in their technological growth and development through regional and international co-operation and collaboration.**	**National Council for Cement and Building Materials, New Delhi**	**The Organising Secretary, National Council for Cement and Building Materials, M-10, South Extension Part II, Ring Road, New Delhi**

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month' while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9-30 a.m. to 5-30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

BIOLOGICAL SCIENCES

Marine Biology

1. Bhupesh Kumar. *A contribution to the limnology of Renuka and Rewalsar lakes of Himachal Pradesh.* HP.

Botany

1. Ashok Kumar. *Studies on some mushroom families in the North-Western Himalayas.* HP.
2. Damanjeet Kaur. *Studies on nematodes associated with ginger, Zingiber officinale Rosc. in Himachal Pradesh.* HP.
3. Dureja, Inam. *Studies on amino acid uptake in protoplasts of higher plants.* JNU.
4. Gupta, Bhupendar. *Structure, net primary productivity and nutrient cycling in grazed and ungrazed grassland ecosystems at Shardaghat, Shimla.* HP.
5. Jasvir Kaur. *Biochemical and anatomical basis of grain filling in rice, Oryza sativa L.* PAU.
6. Kashyap, Satya Dev. *Studies on dry matter production, nutrient accumulation and wood characteristics in Populus ciliata Wallex Royle.* HP.
7. Kaushal, Suman. *Spontaneous and induced variability in Cannabis sativa Linn.* HP.
8. Khan, Azeezur Rahaman. *Studies on micro and macrofungi of Mahadevpur forest District, Karimnagar, A.P.* Osmania.
9. Mishra, Banawari. *Genetic studies and stability parameters of quantitative characters in rice under salt affected soils.* Kurukshetra.
10. Prasad, G.S.V. *Genetical studies in rice inheritance of insect resistance to brownplanthopper etc.* Osmania.
11. Rampratap Singh. *Seasonal changes in effect of IBA, phenols and GA3 in rooting stem cutting of some plant species.* Panjab.
12. Sandhu, Paramjit Singh. *Cytotaxonomical studies of some woody elements of vegetation of Shimla Hills.* HP.
13. Shanker, Suman Bala. *Tissue culture and plantlet regeneration in legumes.* Delhi.
14. Sharma, Shiv Charan. *Floristic and phytosociological studies on the vegetation of Shahjahanpur District.* Rohilkhand.
15. Sunil Kumar. *Studies on mycorrhiza of Picea smithiana (Wall) Baiss and Pinus gerardiana Wall.* HP.
16. Thakur, Khyal Chand. *Studies on the development of true potato seed technology.* HP.
17. Vashistha, Bhoo Dev. *In Vitro investigations on some Indian bryophytes.* Delhi.
18. Verma, Atul. *Some studies on the population biology of Chenopodium album biotypes.* Panjab.
19. Yashovarma, B. *Ecological and taxonomical studies on the algae of some soils of Karnataka.* Karnatak.

Zoology

1. Awati, Bapusaheb Tatoba. *Butea monosperma leaf extract induced alterations in rat male reproductive tract.* Shivaji.
2. Begum, Kawsar Ara. *Hormonal control of carbohydrate metabolism in the brain of the teleost, Channa punctatus.* Berhampur.
3. Bengeri, Krishna Venkatesh. *Studies on the effects of industrial pollutants to some fresh water fishes.* Karnatak.
4. Navdeep Singh. *Breeding biology of the cattle egret, Bubulcus ibis coromandus Boddaert alongwith some observations on its population.* Panjab.
5. Patro, Isan Kumar. *Influence of centrophenoxine on the neuronal lipofuscin in ageing and senile Wistar rates : A histochemical study.* Kurukshetra.
6. Singh, Moirangthem Prenjit. *Melissopalynology and identification of the Himalayan races of honey bees by computer assisted multivariate analysis.* HP.
7. Vyas, Tej Prakash. *Neuroendocrine regulation of reproduction in common Indian field snakes, Ptyas mucosus.* Vikram.

Medical Sciences

1. Fouzia, Nayeem. *Sexual maldevelopment : Developmental cytogenetic and clinical aspects.* Osmania.

2. Hug, Rafiqul. *Studies on dielectric properties and stability evaluation of some dispersions.* Nagpur.

3. Jaggi, Kuldeep Singh. *Biochemical studies on allergenic pollen.* Delhi.

4. Meti, Basappa Lingabasappa. *Study of neurophysiology of pranayama.* Bangalore.

5. Mukherjee, Manas Kumar. *Role of pulmonary fluid in host defence against experimental tuberculosis.* Delhi.

6. Nallari, Pratibha. *Genetic heterogeneity in some gastro-intestinal system disorders.* Osmania.

7. Ramachandra, Kanchan B. *Neuro physiological investigations on meditation.* Bangalore.

8. Ramachandran, V.G. *A study of enteropathogenicity and enterotoxigenicity in Escherichia coli strains isolated from diarrhoea cases.* Delhi.

9. Ramana Rao, Vadlapatla Venkata. *Studies on synthesis and biological activity of structural variants of embelin.* Andhra.

10. Rikh. V.N. *Power line conductors and insulation at extra high voltage.* Nagpur.

11. Salih, Falah A.M. *Fatty acid metabolism in mycobacteria.* Delhi.

Agriculture

1. Bansal, Vipan Kumar. *Genetic analysis of mutagen induced variability in rice, Oryza sativa L.* HP Krishi.

2. Chawla, Kashmiri Lal. *Salt and water transport under high water table conditions.* Kurukshetra.

3. Korla, Bisheshar Nath. *Inheritance of resistance to fruit rot and some other quantitative character in Abelmoschus esculentus (L) Moench.* HP Krishi.

4. Monga, Pradeep Kumar. *Social forestry and biogas microbiology in aid of rural energy alternatives in Himachal Pradesh.* HP.

5. Pawar, Sharad Eknath. *Studies on increasing productivity of mungbean, Vigna radiata (L). wilczek I : Hybridization and induced mutations to improve the yield limiting component, and seed storage proteins.* MP Krishi.

6. Rajendra Prasad. *Genetics of resistance in urobean 'Vigna mungo (L) Hepper to some major diseases occurring in Himachal Pradesh.* HP Krishi.

7. Singh, Arjun Prasad. *Equilibria, availability and pollution hazards of sludge borne nickel and cobalt in soils and plants.* Rajendra Agrl.

8. Singh, Jai Prakash. *Effect of plough sole density on water and nutrient uptake and yield of maize and wheat.* PAU.

9. Singh, Som Nath. *Effect of moisture regimes and phosphorus levels on water use efficiency and quality of berseem in sodic soil.* Kurukshetra.

10. **Surinder Singh.** ***Studies on rainwater conservation for the establishment of an agroforestry system on sodic soil.***

11. Thakur, Dole Ram. *Economics of potato production and marketing in the Lahaul and Spiti District of Himachal Pradesh.* HP Krishi.

Veterinary Science

1. Anap, Ganpat Ramaji. *Engineering studies on UHT processing of milk.* Kurukshetra.

2. Belhe, Narayan Dattatray. *Manufacturing technique for cheddar type cheese from buffalo milk using microbial rennet.* Kurukshetra.

3. Bhatnagar, Vinod Swarup. *Physiological studies on the development of skin follicles in relation to thyroid activity in pashmina goats.* Rohilkhand.

4. Bora, Shyamdas J. *Crossbreeding for evolving new mutton breeds : Breed and breed cross differences in growth, efficiency of feed conversion and carcass yield.* Kurukshetra.

5. Deshmukh, Bhanudas Tukaramji. *Influence of frequency of feeding and milking on secretion of milk in lactating crossbred cows.* Kurukshetra.

6. Kataria, Jagmohan. *Studies and characterization of agents associated with infectious arthritis of poultry with special emphasis on viral arthritis.* Rohilkhand.

7. Khatoon, Jahan Ara. *Studies on physico-chemical characteristics and role of protease-peptone fraction in goat milk and milk products.* Kurukshetra.

8. Mirakhur, Kuldip Kumar. *Studies on diazepam and its combination with the thiopentone sodium anaesthesia in bovines.* PAU.

9. Nanda, Yash Pal. *Studies with the rinderpest virus adopted on the cell culture.* Rohilkhand.

10. Nasseri, Abdul Azim. *Studies on reproductive and foetal pathology in sheep associated with thyroid dysfunction.* Rohilkhand.

11. Patel, Ashok Kumar. *Development of a low calorie protein rich table spread.* Kurukshetra.

12. Purbey, Lakshmi Narayan. *Gynaecological studies in Indien buffaloes, Bubalus bubalis.* Rohilkhand

13. Raghavendra Rao, B.V. *Development of a formula for the dietary management of pre-term infants.* Kurukshetra.

14. Ramakota Reddy, C. *Process modifications for production of khoa based sweets.* Kurukshetra.

15. Sachdeva, Sunil. *Production, packaging and preservation of paneer.* Kurukshetra.

16. Sharma, Ramesh Chand. *Breeding plan for optimising genetic gain in a zebu breed.* Panjab.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during May, 1986.

EDUCATIONAL PLANNING

Derry, Sharon J. and Murphy, Debra A. Designing systems that train learning ability : From theory to practice. *Rev Ednl Res* 56(1), 1986, 1-39.

Ghosh, Sailendranath. Education policy perspective. *New Quest* (55), 1986, 21-3.

EDUCATIONAL ADMINISTRATION

Bevan, John M. Who has the role of building in incentives? *New Directions Hr Edn* (51), 1985, 45-57.

Brown, Margaret and Walworth, William. *Educational leadership :* College Presidents in the decade ahead. *Coll Bd Rev* (138), 1985-86, 22-3, 34.

Cameron, Kim S. Investigating the causal association between unionism and organizational effectiveness. *Res Hr Edn* 23(4), 1985, 387-411.

Clemow, Bice. Collegiate accreditation : The Mythic Club. *Coll Bd Rev.* (138), 1985-86, 19-21, 31.

Dworkin, James B. and Lee, Do-Hwa. Faculty intentions to unionize : Theory and evidence. *Res Hr Edn* 23(4), 1985, 375-86.

Satish Chandra. The University Grants Commission and its role : A review. *J Hr Edn* 10(1 & 2), 1984, 3-8.

Settle, Theodore J. Excellence in business and excellence in the academy. *New Directions Hr Edn* (51), 1985, 109-12.

Toombs, William. Faculty vitality : The professional context. *New Directions Hr Edn* (51), 1985, 69-82.

CURRICULUM

Daily, William T. and Jassel, Lucinda. Continuous content updating : The Stockton Connection. *New Directions Teaching and Learning* (24), 1985, 91-7.

TEACHERS AND TEACHING

Gray, James. Joining a national network : The national writing project. *New Directions Teaching and Learning* (24), 1985, 61-8.

Homan, Sidney. The classroom as theater. *New Directions Teaching and Learning* (21), 1985, 69-77.

Strauss, Robert P. and Sawyer, Elizabeth A. Some new evidence on teacher and student competencies. *Eco Edn Rev* 5(1), 1986, 41-8.

Vivian, James R. Empowering teachers as colleagues : The Yale-New Haven Teachers Institute. *New Directions Teaching and Learning* (24), 1985, 79-89.

EDUCATIONAL TECHNOLOGY

Kanigel, Robert. Technology as a liberal art : Scenes from classroom. *Change* 18(2), 1986, 20-7, 30.

EVALUATION

Abernathy, L.J. Institutionally based student assessment for college placement. *Coll Bd Rev*. (138), Winter 1985-86, 8-11, 29.

Berk, Ronald A. A consumer's guide to setting performance standards on criterion-referenced tests. *Rev. Ednl. Res.* 56(1), 1986, 137-72.

Chase, Clinton I. Essay test scoring : Interaction of relevant variables. *J Ednl Measurement* 23(1), 1986, 33-41.

Hanson, Ralph A. and others. Differences in instructional sensitivity between item formats and between achievement test items. *J Ednl Measurement* 23(1). 1986. 1-12.

Hearn, James C. Determinants of college students' overall evaluations of their academic programs. *Res Hr Edn* 23(4), 1985, 413-37.

Kok, Frank G. and others. Detecting experimentally induced item bias using the iterative logit method. *J Ednl Measurement* 22(4), 1985, 295-303.

Lutkus, Anthony D. Testing and reporting on graduates: The New Jersey Basic Skills Assessment Program. *New Directions Teaching and Learning* (24), 1985, 7-15.

McNitt, Robert W. Highest SAT or Average SAT. *Coll Bd Rev* (138), 1985-86, 24-6.

Payne, David A. and Evans, K. Ann. The relationship of laterality to academic aptitude. *Ednl and Psy Measurement* 45(4), 1985, 971-6.

Singh, Raghavendra S. and Ramjee Lal. Assessment of teacher effectiveness in higher education : Procedures and problems. *J Hr Edn* (Delhi) 10 (1 & 2), 1984, 106-11.

ECONOMICS OF EDUCATION

Dresch, Stephen P. The educational credit trust : A proposal for reconstitution and reform of the student loan system. *Eco Edn Rev* 5(1), 1986, 1-16.

Gramlich. Edward M. Evaluation of education projects : The case of the Perry Preschool Program. *Eco Edn Rev* 5(1), 1986, 17-24.

Green, John L. and Monical, David G. Resource allocation in a decentralized environment. *New Directions Hr Edn* (52), 1985, 47-63.

Hyatt, James A. Information : Setting the context for effective budgeting. *New Directions Hr Edn* (52), 1985, 5-13.

Jimenez, Emmanuel. The structure of educational costs : Multiproduct cost functions for primary and secondary schools in Latin America. *Eco Edn Rev.* 5(1), 1986, 25-39.

Kemper, Gene A. Allocating faculty in the budgeting process. *New Directions Hr Edn* (52), 1985, 31-45.

Tucker, Irvin B. III. Use of the decomposition technique to test the educational screening hypothesis. *Eco Edn Rev* 4(4), 1985, 321-6.

SCIENCE EDUCATION

Tobias, Sheila. Peer perspectives on the teaching of Science. *Change* 18(2), 1986, 36-41.

PROFESSIONAL EDUCATION

Truxal, John G. Learning to think like an Engineer : Why, what and how? *Change* 18(2), 1986, 10-9.

EDUCATIONAL JOURNALISM

Kansal, M.R. Education in journalism : A proposal. *J Indian Edn* 11(3), 1985, 39-42.

COMPARATIVE EDUCATION AND COUNTRY STUDIES

Ball, Robert, and Jalil, Halwachi. Higher education institutions in the Arab States : A study of objectives and their achievement. *Res Hr Edn* 23(4). 1985, 339-49.

Daly, William T. The time is now: Educating citizens for a high-tech world. *New Directions, Teaching and Learning* (24), 1985, 113-9.

Leslie, Larry L. and Conrad, Clifton F. Higher education in the 1980s: Examining the conventional wisdom. *Coll Bd Rev* (138) Winter 1985-86, 12-7, 30.

Radcliffe, David. Universities of the third age : An international perspective. *Convergence* 18(1-2), 1985, 67-74.

Smith, Mary Perry. Early identification and support : The University of California-Berkeley's MESA program. *New Directions, Teaching and Learning* (24), 1985, 19-25.

CLASSIFIED ADVERTISEMENTS

ADMISSIONS

UNIVERSITY OF RAJASTHAN
JAIPUR

NOTIFICATION

The University will reopen for the session 1986-87 on Monday, the 7th July, 1986. Applications for new admission to the following courses provided by the University are invited on the prescribed form by the dates mentioned below in para 2 :

1. Three Year B.A., B.Sc., and B. Com. (Pass) Course.
2. Two Year B.A., B.Sc., and B. Com., (Hons.) Course.
3. Three Year B. Sc., (Home Sc.) Course.
4. Two Year M.A. Course in Hindi, English, Sanskrit, Philosophy, Urdu, Music, Drawing and Painting, History, Economics, Public Administration, Political Science, Sociology and Psychology.
5. Two Year M.Sc. Course in Physics; Chemistry; Zoology, Botany, Geology and Home Science.
6. Two Year M.A./M.Sc. Course in Mathematics, Statistics and Geography.
7. Two Year M. Com. Course in Accountancy and Bus. Statistics, Business Administration, Economic Administration and Financial Management.
8. One Year Higher Proficiency Certificate Course in English.
9. Four months Certificate Course in Spoken English.
10. One Year Post-graduate Diploma in Indian Culture.
11. One Year Certificate and two year Diploma Course in French, German and Russian.
12. Three Year Post-graduate Diploma Course in Cost and Works Accountancy.
13. One Year Post-graduate Diploma Courses in (i) Banking and Finance and (ii) Co-operation.
14. One year Post-graduate Diploma Courses in (i) Human Ecology (ii) Environmental Studies, and (iii) Population Ecology.
15. One Year Certificate and Two Year Diploma Course in Steno-typing (English and Hindi).

2. The last date for receipt of application forms for new admissions to various classes will be as under :

(i) For First Year TDC Classes	21st June, 1986, without late fee and 28th June, 1986 with a late fee of Rs. 10/-.
(ii) For Second Year TDC Classes.	1st July, 1986 without late fee and 8th July, 1986 with a late fee of Rs. 10/-
(iii) For allot her Classes	15th day from the date of declaration of result of the qualifying exam. of this University without late fee and 22nd day with a late fee of Rs. 10/-.

No application forms will be entertained after the expiry of the last date for receipt of application forms with late fee.

3. The prescribed application form (with Prospectus containing relevant information for new admissions) can be obtained from 14th June, 1986, on cash payment of Rs.5/- per form from the Rajasthan Vishwavidyalaya Sahkari Wholesale Upbhokta Bhandar Ltd., Univ. Campus, Jaipur, Dean Students Welfare, Jaipur, University Maharaja's College, Jaipur, University Maharani's College, Jaipur, University Rajasthan College, Jaipur and the University Commerce College, Jaipur. Candidates seeking admistion to M.Sc. Geology can obtain the application forms from the Head of the Rajasthan University Department of Geology, Station Road, Udaipur. Application forms can also be obtained by post on remittance of Rs.10/- (including postal charges of Rs. 5/-) per form by money order to "The Registrar, University of Rajasthan Jaipur" stating the purpose of remittance and giving full address on the M.O. Coupon.

4. Eligibility conditions and other rules for admission are given in the Prospectus.

5. Application forms for admission to the Institute of Correspondence Studies, University Studies in Law, R.A. Podar *Institute of Management, Department* of Library Science and Department of Dramatics should be obtained from the Director of the Institute/Head of the Department concerned.

---

6. Enquiries regarding M. Phil. course and registration for the degree of Ph.D. should be made from the Department concerned.

REGISTRAR

SRI SATHYA SAI INSTITUTE OF HIGHER LEARNING
(Deemed University)

Prasanthinilayam 515 134
Anantapur Dt. (A.P.)

Admission Notice for M.B.A. Programme

The Institute offers an approved two year full-time residential Post-Graduate Degree Course in Business Management leading to M.B.A. The programme will be conducted in Prasanthinilayam Campus (for men). Minimum qualification for this programme is a Bachelor's Degree in any discipline with at least 50 percent. marks in the aggregate.

Prospectus and application form can

GURUKULA KANGRI VISHWAVIDYALAYA
HARDWAR-249 404

Advertisement

Applications on prescribed form are invited for the award of 13 Junior Research Fellowships of Rs. 1000/- each p.m. with a Contingency grant of Rs. 3000/- or Rs. 5000/- per annum from those candidates who have qualified the J.R.F. National Test conducted by University Grants Commission for registration in Ph.D. in the following subjects:

1. Vedic Literature, 2. Sanskrit Literature, 3. Hindi, 4. Ancient Indian History, Culture and Archaeology, 5. Philosophy, 6. Psychology, 7. English.

The J.R.F. so awarded are tenable only at this Vishwavidyalaya and the awardee under the scheme is required to do full time Research work under the guide approved in the department concerned of this Vishwanidyalaya.

Applications alongwith certified copies of certificates, should reach the undersigned on or before **31st August, 1986.** The prescribed application form and booklet of Ph.D. rules may be obtained personally or by sending M.O./PostalOrder for Rs. 7.50 payable to the Registrar Gurukula Kangri Vishwavidyalaya, Hardwar.

Virendra Arora
REGISTRAR

be obtained from the Registrar, on requisition, enclosing a crossed Demand Draft for Rs. 30/- drawn in favour of Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam, and on the State Bank of India, Prasanthinilayam. No other mode of payment will be accepted. Request for the prospectus and the application form should be sent by Registered Post with Acknowledgement Due. The last date of requisitioning the application form and prospectus is **July 6, 1986.**

Completed application form should reach the Office of the Registrar latest by **July 16, 1986**. The written test will be held on August 3 at Prasanthinilayam followed by an interview on August 4 and 5, 1986. The session will start from August 21, 1986.

K. Chakravarthi
REGISTRAR

APPOINTMENTS

ALL INDIA INSTITUTE OF SPEECH AND HEARING MANASA GANGOTRI: MYSORE-576 006

ADVT 4/86

Applications are invited for the undermentioned posts in the above Institute:

Sl. No.	Post	Scale of Pay	Age	Reserved/Unreserved
1.	Professor of Speech Pathology—1 post	Rs.1500-60-1800-100-2000. Total emoluments: Rs. 3330.00	Below 50 years	Reserved for SC/ST
2.	Lecturer in Language Disorders—1 post	Rs.700-40-900-EB-40-1100-50-1300. Total emoluments: Rs. 2053.20.	Below 30 years	—
3.	Lecturer in Speech Sciences—1 post	Rs.700-40-900-EB-40-1100-50-1300. Total emoluments: Rs. 2053.20.	Below 30 years	—

Educational Qualifications, Experience etc.

Professor of Speech Pathology : Essential : (a) A Doctorate Degree or published work of an equally high standard; (b) Consistently good academic record with I or High II Class (B+) Master's Degree in Speech and Hearing/Speech Pathology or an equivalent Degree of a Foreign University; (c) 10 years of teaching-cum-research experience in Degree or Post Graduate classes; (d) capacity to carryout independent research work. Should have guided candidates for research Degree successfully. **Desirable :** Publication of research work of high standard in the subject.

Lecturer in Language Disorders/Lecturer in Speech Sciences : Essential : (a) A Doctorate Degree or published work of an equally high standard; (b) Consistently good academic record with I or High II Class (B+) Master's Degree in Speech and Hearing/Speech Sciences or an equivalent Degree of a Foreign University; **Desirable :** Publication of research work of high standard in the subject.

NOTE : Common for posts 1, 2 and 3 : (i) If the Board of Appointment is of the view that the research work of a candidate as evident either from his thesis or from his published work, is of very high standard, it may relax any of the qualifications prescribed in (b) above; (ii) Provided further that if a candidate possessing a Doctorate Degree or an equivalent published work is not available or is not considered suitable, the person possessing consistently good academic record and Master's Degree in Speech Pathology/Speech and Hearing/Speech Sciences may be appointed (due weightage being given to M. Phil. or equivalent Degree or research work of quality) on the condition that he will have to obtain a Doctorate Degree or give evidence of published work of an equally high standard within 5 years of the appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

In addition to pay, the posts carry usual allowances, Pension-cum-Gratuity, Medical Reimbursement Facility, Leave Travel Concession etc., as admissible to Central Government Employees stationed at Mysore.

Prescribed application forms may be obtained from the Institute on payment of Rs. 2/- each (Re. 1/- each for SC/ST candidates) through Indian Postal Order by sending self addressed and stamped (Re. 1/-) envelope (9" x 4"). The last date for receipt of applications is **7-7-1986.** Candidates already in service must apply through proper channel. Canvassing in any form will be a disqualification. No interim enquiries will be attended to.

DIRECTOR

UNIVERSITY OF GORAKHPUR

GORAKHPUR

Advertisement No. 22107/Gen. (Adm.)/86

Dated : June 7, 1986

Applications for the post of Librarian on the prescribed form (8 copies) available from the office of the Registrar on payment of Rs. 10/- payable in cash or Bank Draft drawn in favour of Registrar, Gorakhpur University, Gorakhpur, are invited so as to reach this office through the employer, if employed, not later than **July 5, 1986.** Those who have applied in response of our earlier advertisement, need not apply again.

1. **Scale of Pay : 1540-60-1900-EB. 75-2200.**

2. **Qualification :** (a) First/Second class B.A./B.Sc./B.Com. degree plus first or Second class M. Lib. Sc. degree (two years course)

Or

First/Second class M.A./M. Com./M. Sc. degree plus first or second class B. Lib. Sc.

(b) Atleast 10 years experience as Librarian or of working in a responsible professional capacity in a library.

(c) Recognised research experience or work on special projects.

B. Singh
REGISTRAR

UNIVERSITY OF DELHI

No Estab. IV/106/86 **Dated: the 14th June, 1986**

Applications on prescribed form are invited for the following posts :

DEPARTMENT	DESIGNATION
1. Arabic	(i) One Professor
	(ii) One Reader
2. Modern Indian Languages	(i) One Lecturer in Manipuri
	(ii) One Lecturer in Kannada (Temporary upto July, '88)
3. Persian	One Professor
4. Psychology	Two Readers
5. Geology	One Lecturer
6. Economics	(i) Three Readers
	(ii) Two Research Associates
7. Sociology	(i) One Professor
	(ii) One Research Associate
8. Music	£ (i) One Professor in Hindustani Music
	(ii) One Reader in Karnatak Music
	(iii) Four Lecturers (three in Hindustani Music, 2 in Instrumental and 1 in Vocal, and One in Karnatak Music-Vocal)
	£(iv) One Musician in Karnatak Music-Vocal
9. Management Studies	(i) Three Readers
	(ii) Five Lecturers (Four temporary)
10. Anthropology	* One Laboratory Attendant (Reserved for Ex-Servicemen)
11. Botany	* Two Laboratory Attendants
12. Chemistry	* One Gas-Mechanic
13. Geology	* One Technical Assistant (Museum)
14. Physics and Astrophysics	* One Technical Assistant
15. Zoology	* One Senior Technical Assistant (Photographer-cum-Artist)
16. History	* One Museum Attendant
17. Central Office	One Sr. Tech. Asstt. (Temporary) (for Microprocessor)
18. Delhi University Library System	Two Professional Juniors
19. W.U.S. Health Centre	@(i) One Physiotherapist (Reserved for Scheduled Caste category)
	* (ii) One Nurse (Reserved for Scheduled Caste category)
20. Garden Committee	Five Malies (One each reserved for Scheduled Caste, Scheduled Tribe, Ex-Servicemen category and Two unreserved)

NOTE:

£ Such candidates who have already applied for the posts of Professor of Hindustani Music and Musician in Karnatak Music—Vocal in response to the earlier advertisement need not apply again. However, they may supply additional information, if any.

@ Candidates of General Category would also be eligible to apply. However, their candidature would be considered only if no Scheduled Caste candidate is found suitable for the post.

Scales of Pay for the Posts are :

Professor
Rs.1500-60-1800-100-2000-125/2-2500.

Reader
Rs.1200-50-1300-60-1900.

Lecturer/Professional Junior
Rs. 700-40-1100-50-1600

Musician in Karnatak Music—Vocal
Rs. 700-40-1100-50-1300 (with the possibility of revision to Rs. 700-1600).

Research Associates

A-Rs. 1400/-P.M. fixed.	On the recommendation of the Selection Committee.
B-Rs. 1600/-P.M.	
C-Rs. 1800/-P.M.	,, ,,
D-Rs. 2000/-P.M.	

Physiotherapist/Sr. Technical Assistant
Rs. 550-25-750-EB-30-900.

Nurse/Technical Assistant/Gas Mechanic
Rs. 425-15-500-EB-15-560-20-700.

Laboratory Attendant/Museum Attendant
Rs.210-4-226-EB-4-250-EB-5-290.

Mali
Rs. 196-3-220-EB-3-232.

All posts except those of Research Associates carry D.A., C.C.A. and H.R.A. etc. as admissible under the rules in force in the University from time to time.

Essential Qualifications for Professorship

An eminent scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research *at doctoral level.*

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Readership

Good academic record with at least second class master's degree in a relevant subject with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research, or (ii) innovation in teaching methods or (iii) production of teaching materials.

Five years' experience of teaching in under-graduate/post-graduate classes and/or post-doctoral research work with evidence of published work.

Note: Second class would mean atleast 50% marks in the subject or equivalent grade.

Lecturership : (Other than Lecturerships *in Music and Management Studies).*

(a) A Doctorate degree or research work of an equally high standard; and

(b) Good academic record with atleast second class (C in the seven point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax the requirements of "at least second class in Master's degree examination" in terms of level achieved at the said examination as prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing good academic record, (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed on the condition that he will have to obtain a Doctor's/M. Phil. degree or give evidence of research of high standard within ten years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation

1. For determining "good academic record" the following criteria shall be adopted:

(i) A candidate holding a Ph.D./M. Phil. degree should possess at least a second class Master's degree; or

(ii) A candidate without a Ph.D./M. Phil. degree should possess high second class Master's degree and second class in the Bachelor's degree; or

(iii) A candidate not possessing Ph.D./ M. Phil. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

2. Persons having secured atleast 55% or more marks shall be deemed to have passed the examination in the high second class.

Lecturership in Music

(a) Good academic record with at least second class (C in the seven point scale) Master's degree in a relevant subject or an equivalent degree or diploma recognised by the University; and

(b) Two years research or professional experience or evidence of creative work and achievement in his field of specialisation or a combined research and professional experience of three years in the field as an artist of outstanding talent.

OR

A traditional or a professional artist with highly commendable professional achievement in the subject concerned.

Lecturership in Management Studies

A Master's degree in Business Administration or M. Tech. in *Engineering with* first class with the provision that the incumbent would acquire a doctorate degree within a period of ten years.

In the case of allied subjects like Industrial Psychology, Personnel Management, Business Statistics, Cost Accountancy etc. where Lecturers are required to be recruited with qualifications other than M.B.A. or M. Tech. the minimum qualifications *shall* be the *some as prescribed* for the Faculties of Arts, Social Sciences including Commerce and Sciences.

Musician in Karnatak Music

(i) Established reputation as a performing musician with ability to demonstrate different forms of classical and light classical Music.

(ii) Knowledge of theory of practice with ability to explain the techniques of practical art.

(iii) A degree in Music desirable.

Research Associate

Consistently Good academic record with first or high second class (B+) Master's degree or an equivalent degree of a foreign University in the subject concerned.

Note: Initial appointment will be for a tenure period of 3 years extendable by another 2 years only. In no case the tenure will extend beyond 5 years in all (Candidates for the post of Research Associate in Sociology are required to submit a suitable research proposal).

Professional Junior

A. Good academic record with at least a high second class Master's degree in a subject other than Library Science.

B. Master's degree in Library Science with first class or high second class.

Sr. Technical Assistant (For Micro-Processor)

1. Post-graduate degree in any Social Science with Statistics/Quantitative Methods as part of the curricular programme.
2. Adequate knowledge of Data Processing in Fortran IV and Familiarity with other softwares like DBASE or GRAPHIC.
3. At least one year's experience of working on and maintaining a Micro Processor.
4. *Familiarity* with and *some experience* of Word Processing.

Physiotherapist

Diploma in Physiotherapy from a recognised Institution.

Nurse

Diploma in General Nursing and Mid-Wifery from recognised University or Institution and registered as 'A' grade Nurse.

Sr. Technical Assistant (Photographer-Cum-Artist) (Deptt. of Zoology)

1. Diploma in Photography from recognised Institution.
2. Considerable experience in Black and White Photography, Processing, *Printing, Enlarging* and *preparation* of projection slides.

Technical Assistant (Physics and Astrophysics)

Graduate in Science.

Technical Assistant (Museum) (Deptt. of Geology)

Graduate in Science with Geology as one of the subjects.

Gas Mechanic (Deptt. of Chemistry)

B.Sc. Degree, should be conversant with handling gas and its preparations and also know electrical and plumbing jobs.

Laboratory Attendant

Should have passed Matriculation or an equivalent examination with Science subjects.

Museum Attendant (Deptt. of History)

High School or Higher Secondary or its equivalent qualification with some experience of working *in archaeological* excavations or museum.

Mali

Elementary knowledge in gardening with agricultural background. Must be conversant with gardening operations.

Special/Desirable Qualification For :

Lecturership in Manipuri

Knowledge of language teaching methods.

Lecturership in Kannada

Comparative literature and *language* teaching methods.

Readership in Psychology

Specialisation in any of the following:- Industrial Psychology/Clinical Psychology/Social Psychology.

Lecturership in Geology

1. Geo-exploration
2. Engineering Geology
3. Isotope and Mining Geology
4. Mineral Fuels.

Professorship in Hindustani Music

Good performing ability with a comprehensive repertoire of traditional ragas and forms.

Readership in Karnatak Music

Good performing ability with a comprehensive *repertoire* of traditional ragas and forms. Proficiency in Veena Playing preferable.

Readership in Management Studies

Area of Specialisation :—

1st post : Personnel Management and Industrial Relations.

2nd post: Organisation Development.

3rd post: Marketing Management.

Lecturership in Management Studies

For Permanent Post: M.B.A. with major in Marketing Management or a person from Industry/Government having Master's degree in any of the Social Sciences with requisite experience specially in the area of Marketing Management.

For Temporary Posts

1st Post: M.B.A. with major in Labour Law or a person from Industry/Government having Master's degree in Law or any of the Social Sciences with requisite experience specially in the area of Labour Laws.

2nd Post: M.B.A. with major in Enterpreneurial Development or a person from Industry/Government having Master's degree in any of the Social Sciences with requisite experience specially in the area of Enterpreneurial Development.

3rd Post: M.B.A. with major in Financial Management or a person from Industry/Government having Master's degree in any of the Social Sciences with requisite experience specially in the area of Financial Management.

4th Post: M.B.A. with major in Management Information System or a person from Industry/Government having Master's degree in Engineering with requisite experience in Computers and Management Information System.

Professional Junior (for one post)

Should have good knowledge of various journals and books dealing with management and business administration.

Nurse :- 2 years experience of Ward duty in General Hospital.

Technical Assistant (Deptt. of Physics and Astrophysics)

Experience of atleast 7 years for scanning and measuring of nuclear events in High Energy Physics Laboratory.

Technical Assistant (Museum) : (Deptt. of Geology)

Preference will be given to Post-Graduates in Geology.

Gas Mechanic

Familiarity with all types of lathe work like facing, surfacing, turning etc.

Laboratory Attendant

Should have worked in a Laboratory.

Museum Attendant

Aptitute for further study.

The prescribed application forms can be had from the Information Section of the University either personally or by sending a self-addressed envelope (size 13 cm X 28 cm) with postage stamps worth **Rs. 3.45 p.**

The candidates will have to produce the original documents relating to their age, qualifications, experience etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, marksheets, published research articles, etc. should be addressed to the Registrar. However, applications for the posts marked asterisk(*) should be sent directly to the Head of the Department concerned in the University. The last date prescribed for receipt of the applications is **14th July, 1986.**

Note:

1. It will be open to the University to consider the names of suitable candidates for any of the teaching posts who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all the posts on the recommendations of the Selection Committee.
2. Canvassing in any form by or on behalf of the candidate will disqualify.
3. Candidates for teaching posts only from outside Delhi, when called for interview will be paid to and fro second class rail fare.
4. The University reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant.

Madan Mohan
REGISTRAR

BHARATHIAR UNIVERSITY: COIMBATORE-641 046

Advertisement No. 3654/E 1/86 **Dated : 12-6-86**

Applications are invited for the following posts:

	No. of Posts	Specialisation
I. **Deptt. of Mathematics**		
Professor	1 (SC/ST)	Operations Research/Operating Systems/Computers Functional Analysis/Optimisation Tecnihques/Differential Equations/Algebra
Reader	2 (SC/ST-1 BC-1)	
II. **Deptt. of Statistics**		
Professor	1 (SC/ST)	Sampling (Theory and Practice) Design of Experiments/Statistical Quality Control/ Reliability/Statistical Inference
Reader	2 (OC-1 SC/ST-1)	
Lecturer	1 (SC/ST)	
III. **Deptt. of Physics**		
Reader	1 (OC)	Thin Films/Applied Optics/ Laser Physics/Solid State Devices/Energy Physics

	No. of Posts	Specialisation
IV. **Deptt. of Chemistry**		
Reader	1 (SC/ST)	Organic Natural Products, Chemistry/ Spectroscopy.
Lecturer	1 (SC/ST)	(i) Heterocyclic and Natural Products—Chemistry. (ii) Organic Photochemistry (iii) Polymer Chemistry
V. **Dept. of Botany**		
Lecturer	2 (OC-1 SC/ST-1)	(i) Anatomy/Forest Botany (ii) Phytochemistry/Plant Physiology
VI. **Deptt. of Environmental Studies**		
Professor	1 (OC)	Environmental Mutagens/Pollution/ Bio-Indicators, Urban Systems/ Environmental Physiology/Ecology of Plants and Animals
Reader	1 (OC)	
Lecturer	1 (OC)	
VII. **Deptt. of Economics**		
Reader	2 (OC-1 SC/ST-1)	Economics Theory/Industrial Economics/Econometrics
Lecturer	1 (SC/ST)	Local Finance/Agricultural Economics
VIII. **Deptt. of Psychology**		
Reader	2 (OC-1 SC/ST-1)	Industrial/Organizational Psychology—Personality-Creativity
IX. **Deptt. of Sociology**		
Professor	1 (SC/ST)	Urban Sociology/Rural Development/ Rural Sociology
Reader	1 (SC/ST)	Industrial Sociology/Rural Development/Rural Sociology
X. **Deptt. of Population Studies**		
Professor	1 (SC/ST)	Popudlation Economics/ Social Demography/Migration/Fertility
Reader	2 (OC-1 SC/ST-1)	
Lecturer	1 (OC)	
XI. **Deptt. of Tamil**		
Lecturer	1 (OC)	In addition to the general qualifications prescribed for the post of Lecturer preference will be given to candidates having specialisation in mass media such as Television, Radio, Journals, News Papers, Cinema, Drama etc.
XII. **Deptt. of Linguistics**		
Reader	1 (OC)	Applied Linguistics and Semantics. Should be proficient in English.
Lecturer	1 (OC)	Socio-linguistics and Translation. Should be proficient in English.

Qualifications and Experience

(a) **Professor:** Consistently good academic record with first or second class (not below 55% or B plus) Post-Graduate degree in the subject or related subject and a Ph.D. degree in the subject with not less than 10 years of Post-Graduate Teaching and/ or research experience out of which not less than 3 years should be in a cadre not below than that of a Reader in the University and published research work of high standard. Evidence of being actively engaged in research and experience in guiding research work at Doctoral level.

(b) **Reader** : Consistently good academic record with first or second class (not below 55% or B plus) Post-Gtraduate degree in the subject or related subject and Ph.D. degree in the subject with not less than 5 years of Post-Graduate teaching and/or research experience out of which not less than 3 years should be in a cadre not below than that of a Lecturer in the University and published research work of high standard. Evidence of being actively engaged in research and experience in guiding research.

(c) **Lecturer** : Consistently good academic record with first or second class (not below 55% or B plus) Post-Graduate degree in the subject or related subject and a Ph.D. degree in the subject with not less than 2 years of Post-Graduate Teaching and/or research experience.

Desirable

Publication of research work of high standard in the subject.

Scale of Pay

Professor : Rs. 1500-60-1800-100-2000-125/2-2500.
Reader : Rs. 1200-50-1300-60-1900.
Lecturer : Rs. 700-40-1100-50-1600.

The Syndicate reserves the right to fill or not to fill any or all of the above posts.

Maximum age as on 1-6-1986

For Professors : 50 years
For Readers : 45 years
For Lecturers : 40 years

Any candidate applying for more than one post shall send separate application for each post.

Application form can be had from the Registrar, Bharathiar University, Coimbatore-641 046 on requisition accompanied by a self-addressed and 90 paise stamped envelope (25 cm x 10 cm.). Name of the post for which the application is intended shall be specified in the requisition.

Attested copies of certificates showing qualifications, age, experience etc., should be sent alongwith the application in the prescribed from (in Eight Copies) together with Registration fee of Rs. 10/- in the form of Crossed Indian Postal Order dated not earlier than **1-6-1986** drawn in favour of the Registrar, Bharathiar University, Coimbatore-641 046.

Candidates in service shall submit their application through proper channel.

Completed application should reach the Registrar on or before 19-7-1986.

Incomplete applications and applications without the required registration fee will not be considered.

REGISTRAR

DAYALBAGH EDUCATIONAL INSTITUTE

(Deemed University)

DAYALBAGH, AGRA-282005

Applications are invited in the prescribed application forms for the following posts:

(A) TEACHING POSTS

I. **READERS** : One each in (1) Chemistry (2) Electronics Science (3) Education (4) Sanskrit

II. **LECTURERS** : TWO each in (1) Chemistry (Environmental) (2) Electronics Science (3) Mathematics (Specialisation in Numerical Analysis and Computer Programming/Data Processing and Computer Programming is necessary for one post) (4) Music (one Vocal, one Sitar) (5) Electrical Engineering, and ONE each in (1) Botany (Cell/Molecular Biology) (2) English (3) Education (English) (4) Accountancy and Law (Commerce) (5) Applied Business Economics (Commerce) (6) Rural Development (Home Science/Extension/Nutrition/Child Care/Child Development/Textile and Clothing Construction).

III. **LECTURERS** : (Leave vacancy upto May, 1987) in (1) Education (Home Science/Hindi) (2) Vocal Music (3) English (4) Electrical Engineering (upto December, 1986).

IV. **TEACHING ASSISTANTS**—One each in Mech./Elect. Engineering (B) **FOR COMPUTER CENTRE** : (1) Systems Manager (Head of Computer Centre)—One (2) Systems Engineer—One (3) Programmers—Two (4) Computer Operators—Two (5) Key Punch operators—Two.

PAY SCALES : (Rs.) (1) Readers 1200-1900 (2) Lecturers 700-1600 (3) Teaching Assistants 1000/- (consolidated) for graduates in Engineering with atleast 70% marks and 1150/- (consolidated) for post-graduates in Engineering with I division.

For Computer Centre : (1) & (2) 1100-1600 (3) 700-1300 (4) 425-700 (5) 260-400.

MONTHLY EMOLUMENTS : (Rs.) (1) Reader 2860/- (2) Lecturers 1963/- For Computer Centre (1) and (2) 2760/- (3) 1963/- (4) 1260/- (5) 835/-.

NOTE : (1) Prescribed application forms alongwith details of qualifications can be had from the office of the Registrar of the Institute on payment of Rs. 5/- for posts at (A) and Rs. 2/- for other posts by cash at counter or by sending a bank draft of the required amount and accompanied by a self-addressed stamped (3.50 paise for ordinary post/Rs. 3.25 for registered post) envelope of the size 22×10 cms. (2) Applications complete in all respect alongwith enclosures and registration fee of Rs. 10/- for posts at (A) and Rs. 5/- for other posts should reach the Registrar of the Institute latest by **25 July, 1986.** (3) All payments be made either in cash at counter/or by bank draft drawn in favour of DAYALBAGH EDUCATIONAL INSTITUTE payable at Agra. (4) Qualifications may be relaxed in case of candidates with long and relevant experience. (5) Separate application be made for each post. (6) The number of posts may vary according to need. (7) Government/Semi-Government empolyees should apply through their employees or produce 'No Objection Certificate' from their employers during the interview. (8) SC/ST candidates will be preferred if found otherwise suitable. (9) Incomplete applications and those not accompanied by testimonials and/or Registration fees will not be considered. (10) It is likley that some of the posts may not be filled in immediately. (11) Superannuated persons are not eligible for employment. (12) An applicant for a higher post may be offered a lower post.

REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY, MADRAS

Advertisement No. IITM/R/5/86.

Applications are invited for a post of PROFESSOR in the pay scale of Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances as admissible to Central Government employees stationed at Madras (gross emoluments on the minimum of the pay scale is Rs. 3405/- p.m.), for the Department of CHEMICAL ENGINEERING at this Institute.

Area of Specialisations

Computer Aided Process Synthesis and Equipment Design, Transfer Operation, Catalysis and Reactors, Biochemical Engineering, Environmental Engineering.

Qualifications and Experience

(i) A good academic record with Bachelor's or Master's degree in Chemical Engineering; A Doctorate Degree in any of the specialisations mentioned or related areas is **essential.**

(ii) Ten years experience in the field of specialisation of which at least five years should be in teaching and/or research.

(iii) Published research work of good quality in journals of repute.

(iv) Experience in guiding research.

Persons not found suitable for the post of Professor may be considered for lower posts including for the post of Associate Professor depending upon their academic background and relevant teaching/research/professional experience.

For application form, please address the Registrar Indian Institute of Technology, Madras-600 036 with a self-addressed stamped (90 paise) envelope (26 cm. × 11 cm). Persons in the service of Government establishments and public sector undertakings should apply through proper channel. Indian national abroad may apply on plain paper (in duplicate) with full details of educational qualifications, research experience and names and addresses of three referees.

Completed applications with a crossed non-refundable current Indian Postal Order of the value of Rs. 7.50 (Re. 1.90 for Scheduled Caste/Scheduled Tribe candidates) drawn in favour of the Institute payable at IIT Madras P.O., should be sent to the Registrar of the Institute.

The last date for the receipt of completed applications is **23rd July, 1986.**

DEAN/ADMINISTRATION

14607

SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, Post Box No. 49, SURAT-395007

Applications are invited in the prescribed forms (in eight copies) for the following teaching posts in the Post-Graduate Departments of the University :

Sr. No.	Department	Posts
1.	Economics	(i) Two Readers (ii) *One Lecturer
2.	Linguistics	*Two Lecturers
3.	Mathematics/Statistics	(i) *One Lecturer (Mathematics) (ii) *One Lecturer (Statistics)
4.	Business and Industrial Management	(i) One Professor (ii) One Reader (iii) *One Lecturer (iv) **One Lecturer
5.	Education	(i) One Professor (ii) **One Lecturer
6.	Physics	(i) One Reader Electronics (Technology Qualified) / Theoretical Physics (ii) *One Lecturer Theoretical Physics (iii) **One Lecturer Electronics/Computer Science/Theoretical Physics
7.	Bio-Sciences	**One Lecturer
8.	Public Administration	(i) One Reader (ii) **One Lecturer
9.	Sociology	**One Lecturer
10.	Chemistry	One Lecturer in Analytical Chemistry
11.	Department of Continuing Education and Extension Work	Two Assistant Directors (Temporary posts)

Note: *These posts of Lecturers are reserved for Scheduled Caste/Tribe/other Backward Class (Baxi Panch) of Gujarat State and only candidates belonging to these Classes need apply.

**These posts of Lecturers are reserved for Scheduled Caste/ Tribes and other Backward Classes but if suitable candidates are not available, they will be filled by any qualified candidates from any class/caste.

Pay Scales for the above Posts are as under :

(1) **Professor** : Rs. 1500-60-1800-100-2000-125/2-2500.

(2) **Reader/Assistant Director** - Rs. 1200-50-1300-60-1600-Assessment - 60-1900.

(3) **Lecturer** : Rs. 700-40-1100-50-1300-Assessment-50-1600.

In addition to pay, the teachers of the University Departments are entitled to draw Dearness Allowance, House Rent Allowance and other benefits like Pension-Cum-Gratuity, Leave Travel Concession and Medical benefits.

Candidates belonging to Scheduled Castes/Scheduled Tribe and Backward Class should clearly indicate in their application the caste to which they belong and attached necessary certificate alongwith their applications.

Information about qualifications and special field in which the appointment on each post is to be made, will be supplied with prescribed application forms which can be had from the undersigned on payment of Rs. 7.00 in cash or by postal order alongwith self-addressed envelope of 22 cm x 13 cm. size with postal stamps worth Rs. 3.10 ps. affixed thereon.

The last date for receipt of application is **7-7-1986.**

G.A. Desai
REGISTRAR

SHIVAJI UNIVERSITY

KOLHAPUR

Advertisement No. 21

Applications are invited for the following posts at the Shivaji University Post-Graduate Teaching Centre, Solapur shown with asterisk mark and in the University Post-graduate Departments, Kolhapur.

(1) Professor : One each in (i) Mathematics/ Pure/Applied Mathematics) Reserved for B.C.), *(ii) Physics (Applied Industrial Electronics), *(iii) Polymer Chemistry (Candidates who have specialisation in Polymer Chemistry. Candidate who have M.Sc. in Organic Chemistry and Ph. D. and Research in Polymer Chemistry can also apply. Preference will be given to candidates having M.Sc. and Ph. D. in Polymer Chemistry).

(2) Reader : One each in (i) Mathematics (Computer Science/Algebra) [Reserved for B.C.]. * (ii) Geology (Structural Geology/Photogeology and Remote Sensing/ Metamorphic and Igneous Petrology/ Geochemistry), *(iii) Physics (Applied Electronics).

(3) Lecterer : One each in (i) Zoology (aquatic biology and fisheries or Environmental biology ; (ii) Sociology (Sociology of Weaker Sections/Sociology of Economic life/Sociological Theory) [Reserved for B.C., if suitable B.C. candidate is not available the post will be filled up temporarily from the open category], *(iii) Geology (Palaeontology/Stratigraphy) [Reserved for B. C.] *(iv) Physics (Electronics), *(v) Chemistry (Physical Chemistry), (vi) Botany (Preference will be given to the candidate who has done research in Botany having plant protection bias). (vii) Geography (upto 5-2-1987). (viii) Two in Physics (First for Solid State Physics or Nuclear Physics, second for Theoretical Physics or Nuclear Physics) [First Post is reserved for B.C.].

Pay Scales

Professor : Rs. 1500-60-1800-100-2000-125/2-2500.

Reader : Rs. 1200-50-1300-60-1900.

Lecturer : Rs. 700-40-1100-50-1600.

Qualifications : Professor : An Eminent scholar with published work of high quality, actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at Doctoral level, OR An Outstanding scholar with established reputation, who has made significant contribution to knowledge.

Reader : Good academic record with a Doctoral Degree OR equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) Production of Teaching Materials. About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

Lecturer : (A) Doctorate Degree or research work of an equally high standard; and (B) Good academic record with at least second Class [(C) in the seven point scale] Master's Degree in relevant subject from an Indian University or an equivalent degree from an Indian University or an equivalent degree from a Foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degree in (A) and (B) above may be in specialisation in the relevant subjects wherever applicable.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (B) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record (weightage being given M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work, for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research of high standard within eight years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Age Limit : Candidates applying for the post of Professor should ordinarily be below the age of 50 years, for the post of Reader should be below the age of 45 years and for the post of Lecturer should be below the age of 35 years. However, this age limit may be relaxed in the cases of deserving candidates and of B.C. candidates by 5 years.

Prescribed application forms (eight copies) can be had from the University Office. Desirous candidates are requested to send Indian Postal Order of Rs. 5/- alongwith a self-addressed envelope (Size 28 cm. × 12 cm.) with postage worth Rs. 2.10 Ps.

Eight copies of applications alongwith necessary enclosures attached to each copy of the applications should reach the Registrar, Shivaji University, Vidyanagar, Kolhapur - 416004 on or before **11-7-1986**.

S.R. Salokhe
Ag. REGISTRAR

गुरू घासीदास विश्वविद्यालय

बिलासपुर (म. प्र.)

क्रमांक/115/85 बिलासपुर, दि. 7-6-86

प्रवेश विज्ञप्ति

विश्वविद्यालय द्वारा संचालित सत्र 1986-87 के लिए पुस्तकालय विज्ञान (बी. लिब. एस. सी.) एवं बैचलर आफ फिजिकल एजुकेशन (बी. पी. एड.) में एक वर्षीय उपाधि पाठ्यक्रम में प्रवेश हेतु आवेदन पत्र आमन्त्रित किये जाते हैं।

न्यूनतम योग्यता :

(1) बी. लिब. एस. सी.—(i) बी. ए./बी. एस. सी./बी. कॉम. स्नातक डिग्री में 40% अंक प्राप्त करना अनिवार्य है। (ii) अंग्रेजी का ज्ञान होना अनिवार्य है।

(2) बी. पी. एड.—(i) मान्यता प्र
विश्वविद्यालय में किसी भी संकाय में स्ना
होना अनिवार्य है। (ii) खेलकूद में अभि
राष्ट्रीय, विश्वविद्यालयीन एवं प्रांतीय स्तर
के खिलाड़ियों को प्राथमिकता दी जायेगी

नोट : (1) आवेदन प्रपत्र तथा
के लिए मार्गदर्शन, विश्वविद्यालय कार्या
ऋषि कुटीर, नेहरू चौक से 5.00 रु.
नकद भुगतान करके या कुलसचिव,
घासीदास विश्वविद्यालय, बिलासपुर को
रेखांकित भारतीय पोस्टल आर्डर या
ड्राफ्ट भेजकर मंगाया जा सकता है।

(2) डाक द्वारा आवेदन पत्र प्राप्त क
के इच्छुक छात्र/छात्राओं को कुलसचिव,
घासीदास विश्वविद्यालय, बिलासपुर के
एक आवेदन प्रपत्र अपना पता सहित 5.0
का अतिरिक्त पोस्टल आर्डर/बैंक ड्राफ्ट भे
अनिवार्य होगा ताकि आवेदन पत्र रजि
डाक से भेजा जा सके।

(3) ठीक तरह से भरा आवेदन प्र
कुलसचिव, गुरु घासीदास विश्वविद्याल
पास दिनांक **30-6-86** को या उससे
पहुंच जाना चाहिये। लिफाफे के उ
स्पष्ट रूप से "बेचलर आफ लाइब्रेरी सा
बेचलर आफ फिजिकल एजुकेशन" लि
होना चाहिये।

रामचन्द्र पर
कुलसचि

SRI VENKATESWARA UNIVERSITY

TIRUPATI

CORRIGENDUM to Advertisement No. EII(2)/1986(1). Dated: 15-5-198

(1) Serial No. 32 of the Advertisement No. EII(2)/1986(1), dated 15-5-1986 be read
follows :—

32. Lecturer	Area Studies Programme—Centre for Studies on Indo-China.	SVU Coll. of A and S, Tpt.	Two (Ty.) (One Economics/Politi Science and the o in Khemer/Laot Language)

(2) Serial No. 34 be treated as deleted.

C. Subba Raj
REGISTRAR

Printed & Published by SUTINDER SINGH on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110002. Grams: UNIBOARD. Phones : 3315105, 3313390, 3312305, 3310059, and 3312429.
Printed by Navchetan Press (P) Ltd., at Navjeevan Printers, 1-E/2, Jhandewalan Extension, New Delhi-110055, Tel. 529157